

# Service Manual

Blu-ray Disc Player

Model No. **DMP-BD75GA**  
**DMP-BD75GC**  
**DMP-BD75GN**  
**DMP-BD75GT**  
**DMP-BD75GW**  
**DMP-BD75PU**



Vol. 1

Colour

(K).....Black Type

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries.
Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535; 7,392,195; 7,272,567; 7,333,929; 7,212,872 & other U.S. and worldwide patents issued & pending. DTS and the Symbol are registered trademarks, & DTS-HD, DTS-HD Master Audio   Essential and the DTS logos are trademarks of DTS, Inc. Product includes software. © DTS, Inc. All Rights Reserved.
This item incorporates copy protection technology that is protected by U.S. patents and other intellectual property rights of Rovi Corporation. Reverse engineering and disassembly are prohibited.
HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.
This product is licensed under the AVC patent portfolio license and VC-1 patent portfolio license for the personal and non-commercial use of a consumer to (i) encode video in compliance with the AVC Standard and VC-1 Standard ("AVC/VC-1 Video") and/or (ii) decode AVC/VC-1 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC/VC-1 Video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, LLC. See <a href="http://www.mpegla.com">http://www.mpegla.com</a> .
HDAVI Control™ is a trademark of Panasonic Corporation.
"AVCHD" and the "AVCHD" logo are trademarks of Panasonic Corporation and Sony Corporation.
"DVD Logo" is a trademark of DVD Format/Logo Licensing Corporation.
MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson.
DivX®, DivX Certified® and associated logos are trademarks of DivX, Inc. and are used under license.
Windows is a trademark or a registered trademark of Microsoft Corporation in the United States and other countries.
DLNA, the DLNA Logo and DLNA CERTIFIED are trademarks, service marks, or certification marks of the Digital Living Network Alliance.

## **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# TABLE OF CONTENTS

	PAGE		PAGE
<b>1 Safety Precautions</b> -----	<b>4</b>	9.2. BD Drive-----	28
1.1. General guidelines-----	4	9.3. Disassembly from the traverse unit, assembly of the optical pick-up unit, and precautions on ESD-preventive-----	32
1.2. Caution for fuse replacement-----	4	9.4. Repair Flowchart and Analysis Procedures-----	36
<b>2 Warning</b> -----	<b>6</b>	<b>10 Measurements and Adjustments</b> -----	<b>38</b>
2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatic Sensitive (ES) Devices-----	6	10.1. Service Positions-----	38
2.2. Precaution of Laser Diode-----	7	10.2. Caution for Replacing Parts-----	40
2.3. Service caution based on legal restrictions-----	8	<b>11 Block Diagram</b> -----	<b>41</b>
<b>3 Service Navigation</b> -----	<b>9</b>	11.1. Overall Block Diagram-----	41
3.1. Service Information-----	9	11.2. Power Supply Block Diagram-----	42
3.2. Combination of Multiple Pressing on the Remote Control-----	10	<b>12 Schematic Diagram</b> -----	<b>43</b>
3.3. Entering Special Modes with Combination of Multiple Pressing on the Remote Control-----	10	12.1. Interconnection Schematic Diagram-----	43
<b>4 Specifications</b> -----	<b>12</b>	12.2. Power Supply Schematic Diagram-----	44
<b>5 Location of Controls and Components</b> -----	<b>14</b>	12.3. LED Section Schematic Diagram-----	45
<b>6 Operating Instructions</b> -----	<b>15</b>	12.4. Power SW Schematic Diagram-----	46
6.1. Taking out the Disc from BD-Drive Unit when the Disc cannot be ejected by OPEN/CLOSE button-----	15	<b>13 Printed Circuit Board</b> -----	<b>47</b>
<b>7 Service Mode</b> -----	<b>16</b>	13.1. Power P.C.B. and Power SW P.C.B.-----	47
7.1. Self-Diagnosis and Special Mode Setting-----	16	<b>14 Appendix for Schematic Diagram</b> -----	<b>48</b>
<b>8 Service Fixture &amp; Tools</b> -----	<b>25</b>	14.1. Voltage and Waveform Chart-----	48
<b>9 Disassembly and Assembly Instructions</b> -----	<b>26</b>	<b>15 Exploded View and Replacement Parts List</b> -----	<b>51</b>
9.1. Unit-----	26	15.1. Exploded Views-----	51
		15.2. Electrical Replacement Parts List-----	56
		<b>16 Schematic Diagram for printing with A4 size</b> -----	<b>58</b>

# 1 Safety Precautions

## 1.1. General guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

### 1.1.1. Leakage current cold check

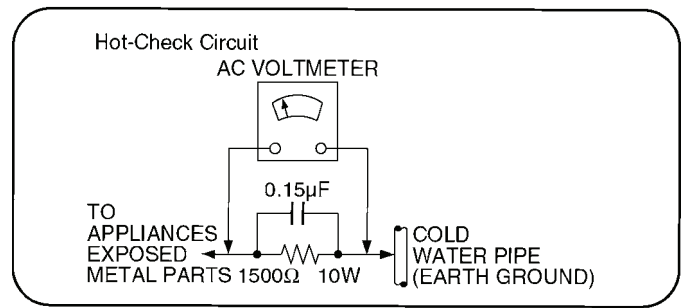
1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between  $1M\Omega$  and  $5.2M\Omega$ .  
When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$ .

voltage at each point.

5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliampere. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

### 1.1.2. Leakage current hot check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a  $1.5k\Omega$ , 10 watts resistor, in parallel with a  $0.15\mu F$  capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the



## 1.2. Caution for fuse replacement

(For English)

### CAUTION:

Replace with the same type fuse:  
(Manufacturer: Hollyland, Type: SCT, T2A, 250V )

(For Canadian French)

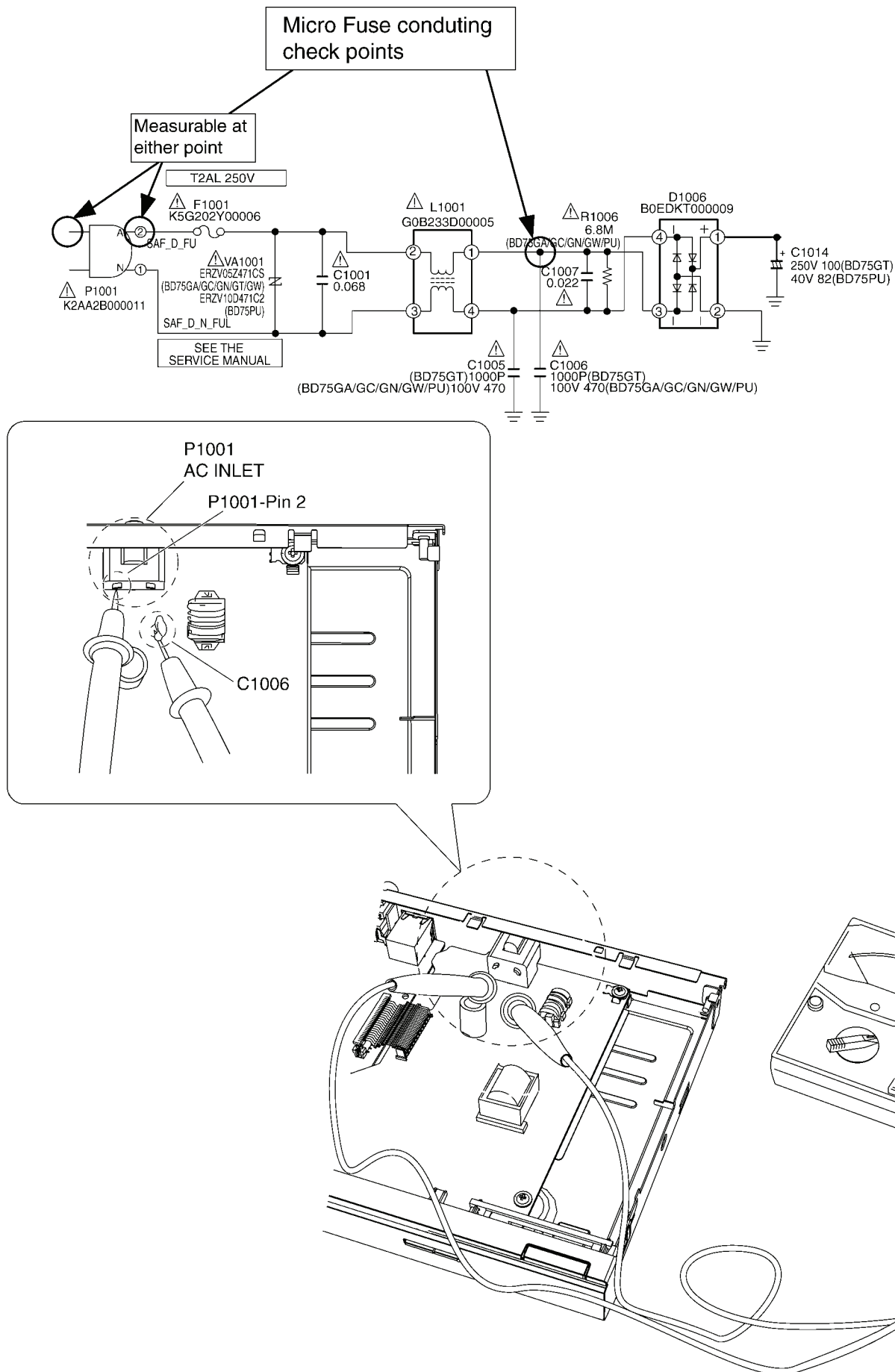
### ATTENTION:

Utiliser un fusible de rechange de même type:  
(Fabricant: Hollyland, Type: SCT, T2A, 250V )

## 1.2.1. Micro Fuse conducting check

This unit uses the Micro Fuse.

Check the Micro Fuse conducting using the Tester at the check points below.



## 2 Warning

### 2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatic Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatic Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).


1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

#### Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

#### IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

## 2.2. Precaution of Laser Diode

### CAUTION:

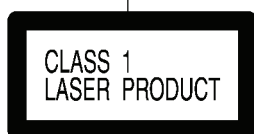
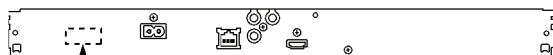
This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wave length: 790 nm (CDs)/ 655 nm (DVDs)/ 405 nm (BDs)

Maximum output radiation power from pickup: 100  $\mu$  W/VDE

Laser radiation from the pickup lens is safety level, but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.



### ACHTUNG:

Dieses Produkt enthält eine Laserdiode.

Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

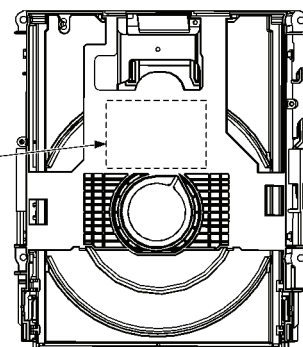
Wellenlänge: 790 nm (CDs)/ 655 nm (DVDs)/ 405 nm (BDs)

Maximale Strahlungsleistung der Lasereinheit: 100  $\mu$  W/VDE

Die Strahlung der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR/Class II (IIa)
CAUTION	- CLASS 1 LASER PRODUCT. DO NOT VIEW DIRECTLY INTO OPTICAL INSTRUMENTS. IEC 60825-1:2007 CLASS 1M
ATTENTION	- L'APPAREILMENT LASER VISIBLE ET INVISIBLE, CLASSE 1M. EN CAS D'OUVERTURE, NE PAS REGARDER DIRECTEMENT A L'AIDE D'INSTRUMENTS OPTIQUES.
FORSIGTIG	- SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 1M. NÅR LÅGET ER ÅBENT, UNDGÅ AT SE LIGE PÅ MED OPTISKE INSTRUMENTER.
VARO	- AVATTAESSA OLET ALTIINA LÖÖKÄÄ 1M NÄKYYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTELYÄ. ÄLÄ KATSO OPTISELLA LAITTEELLA SUORAAN SÄTEESEEN.
VARNING	- KLASSE 1M SYNLIIG OG USYNLIIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄCKA EJ STRÅLEN DIREKT GENOM OPTISKT INSTRUMENT.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRALUNG KLASSE 1M. NICHT DIREKT MIT OPTISCHEN INSTRUMENTEN BETRACHTEN.
注意	- 打开时有可见及不可见激光辐射。避免光束照射。
注意	- ここを開くと可能及び不可視レーザー光が出ます。ビームを直視したり、覗いたりしないでください。 VOL1470



### CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

2.3. Service caution based on legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder.  (See right figure)	PbF
---	-----

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.  
(Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.  
RFKZ03D01KS-----(0.3mm 100g Reel)  
RFKZ06D01KS-----(0.6mm 100g Reel)  
RFKZ10D01KS----- (1.0mm 100g Reel)

Note

\* Ingredient: tin (Sn), 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%



## 3 Service Navigation

### 3.1. Service Information

This service manual contains technical information which will allow service personnel's to understand and service this model.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

1) This service manual does not contain the following information, because of the impossibility of servicing at component level.

- \* Schematic Diagram, Block Diagram and P.C.B. layout of Digital P.C.B..

- \* Parts List for individual parts of Digital P.C.B..




## 3.2. Combination of Multiple Pressing on the Remote Control

Press multi-buttons (in combination) on the remote control simultaneously for operations, such as initialization or service mode, etc. There are no multiple pressing functions on the previous remote controls, thus, please be sure to use the supplied remote control.

## 3.3. Entering Special Modes with Combination of Multiple Pressing on the Remote Control

Enter the following special modes by multiple pressing functions on the supplied remote control.

After entering each mode, switch to the desired menus for operation.

Disclosure mode	Nondisclosure mode 1	Nondisclosure mode 2
[OK] [Blue] [Yellow]	[6] [7] [Yellow]	[5] [9] [Red]
		

◆ **Menu switch:** ↓ mark.

Right cursor (remote control),  
or  
[Power] (main unit)

◆ **Operating menu:**

[OK] (remote control)  
or  
[O/C] (main unit)

※ Release from special modes automatically after the operation.

◆ **Release from special modes:**

- Press other buttons in no connection with the above operations.
- No operation for over 2 min.
- Press and hold [Power] on main unit (forced to turn off).

### 3.3.1. Disclosure mode (Combination of multiple pressing: [OK] [Blue] [Yellow])

Press and hold [OK] [Blue] [Yellow] on the remote control simultaneously for 5 sec., then "00 RET" is displayed on FL display window.

Power	Disc	FL display	Key operation	Function	Remarks
ON	Yes/No	00 RET	No	No	
	No	03 VL	OK	Release from BD/DVD video play restriction	Release from the aging restriction on BD video and DVD video play.
		↓			
	Yes/No	04 PRG	OK (Press and hold)	Progressive initialization	Initialize the progressive settings, and switch to the interlaced display. Press and hold [Stop] (not [OK]) (on the remote control or main unit) to switch to "10 OCL" (setting shop lock mode)
		↓			
	Yes/No	06 FT0	OK	Force tray open	When O/C button is invalid, the tray of BD Drive is forced to open. If the tray still cannot be opened in this mode, please refer to "6.1.2 When the Forcible Disc Eject can not be done " in Vol.1.
		↓			
	Yes/No	07 DC	OK (Press and hold)	Deep Color initialization	Initialize Deep Color.
		↓			
	Yes/No	08 FIN	OK (Press and hold)	Reset to factory default setting	Reset all to factory default settings, including Quick Start and Network related settings.
		↓			
	Yes/No	10 OCL	OK	Shop lock mode setting/release ([O/C] is invalid/valid, while setting/release this mode.)	When "04 PRG" is displayed, press and hold [Stop] (on the remote control or main unit) to switch to other displays. Press [OK] to only lock the tray switch. * Even turn ON/OFF the power, it is still in locking.

### 3.3.2. Nondisclosure mode 1 (Combination of multiple pressing: [6] [7] [Yellow])

Press and hold [6] [7] [Yellow] on the remote control simultaneously for 5 sec., then [50 RET] is displayed on FL display window.

Power	Disc	FL display	Key operation	Function	Remarks
ON	No	50 RET	No	No	
		↓			
		51 NOP	OK	No	When "51 NOP" is displayed, press and hold [Stop] (on the remote control or main unit) to switch to "52 BRE" (delete BD-ROM history settings)
		52 BRE	OK	BD-ROM history delete	When "51 NOP" is displayed, press and hold [Stop] (on the remote control or main unit) to switch to other displays. Press [OK] to delete BD video history.

### 3.3.3. Nondisclosure mode 2 (Combination of multiple pressing: [5] [9] [Red])

Press and hold [5] [9] [Red] on the remote control simultaneously for about 5 sec., then "70 RET" is displayed on FL display window.

Power	Disc	FL display	Key operation	Function	Remarks
ON	Yes/No	70 RET	No	No	
		↓			
	Yes	80 SRV	OK	Switch to service mode	Press [OK], then "HELLO" is displayed, and wait about 30 sec. until "SERV" is displayed.
		↓			
		81 AIG	OK	Switch to aging mode	
	Yes/No	86 DST	OK	Switch to Drive aging mode	Do not apply in normal service.
		↓			
		91 SPD	OK	Special display	Do not apply in normal service.

## 4 Specifications

<b>Power supply:</b>	AC220V-240V, 50/60Hz (BD75GA/GC/GW) AC110V, 60Hz (BD75GT) AC220V-240V, 50Hz (BD75GN) AC110V-240V, 50/60Hz (BD75PU)
<b>Power consumption:</b>	Approx. 12W (BD75GA/GC/GN/GT/GW) Approx. 14W(BD75PU)
in standby mode:	Approx. 0.2W (BD75GA/GC/GN/GW/PU) Approx. 0.1W(BD75GT)
in quick start standby mode:	Approx. 3.6W (BD75GA/GC/GN/GW) Approx. 3.3W (BD75GT) Approx. 3.8W (BD75PU)
<b>Operating temperature range:</b>	+5°C to +35°C(+41 to +95°F)
<b>Operating humidity range:</b>	10% - 80%RH (no condensation)
<b>Signal system:</b>	PAL/NTSC (BD75GA/GC/GN/GT/GW) NTSC (BD75PU)
<b>Video output:</b>	
output level:	1.0Vp-p (75Ω)
output connector:	Pin jack (1 System)
<b>Video performance:</b>	
Horizontal resolution:	More than 500 lines
Video S/N ratio:	More than 65dB
<b>Audio output:</b>	
output level:	2 Vrms (1kHz, 0dB)
output connector:	Pin jack
number of connector:	2 channel 1 system
<b>Audio performance:</b>	
Frequency response:	
DVD(linear audio):	4Hz-22kHz (48kHz sampling) 4Hz-44kHz (96kHz sampling)
CD-Audio:	4Hz-20kHz
S/N ratio:	100dB
Dynamic range:	100dB
Total harmonic distortion:	0.004%
<b>HDMI AV output:</b>	
Output connector:	TypeA (19pin), 1 system
<b>USB slot:</b>	
USB 2.0:	1 system
<b>Ethernet:</b>	
10BASE-T/100BASE-TX:	1 system
<b>Regional Code:</b>	DVD: #3(BD75GA/GT) BD: Region A DVD: #2(BD75GC) BD: Region B DVD: #5(BD75GW) BD: Region C DVD: #4(BD75GN) BD: Region B DVD: #4(BD75PU) BD: Region A
<b>Media:</b>	
<b>Playable discs:</b>	
BD-Video(BD-LIVE, BONUSVIEW):	BD-ROM Version2.3

BD-RE:	Version3 (Single Layer/Dual Layer), JPEG
BD-R:	Version2 (Single Layer/Dual Layer), MKV(*4, *5, *6), DivX(*4, *5, *7)
DVD-R:	DVD-Video format (*1), DVD Video Recording format(*1), AVCHD format(*1), JPEG(*2), MP3(*2), MKV(*2, *3, *5, *6), DivX(*2, *3, *5, *7)
DVD-R DL:	DVD-Video format (*1), DVD Video Recording format(*1), AVCHD format(*1), JPEG(*2), MP3(*2), MKV(*2, *3, *5, *6), DivX(*2, *3, *5, *7)
DVD-RW:	DVD-Video format (*1), DVD Video Recording format(*1), AVCHD format(*1)
+R:	Video(*1), AVCHD format(*1)
+R DL:	Video(*1), AVCHD format(*1)
+RW:	Video(*1), AVCHD format(*1)
DVD-Video:	DVD-Video format
CD-Audio:	CD-DA
CD-R/CD-RW:	CD-DA, JPEG(*2), MP3(*2), MKV(*2, *5, *6), DivX(*2, *5, *7)

\*1: Finalizing is necessary.

\*2: ISO9660 level1 or 2(except for extended formats), Joliet.

This unit is compatible with multi-session.

This unit is not compatible with packet writing.

\*3: UDF1.02 without ISO9660, UDF1.5 with ISO9660.

\*4: UDF2.5.

\*5: Maximum number of folders recognizable:300 folders.  
(including the root folder)

Maximum number of files recognizable:200 files.

\*6: MPEG-4 ASP. Level 4. AAC-LC, MP3, Dolby Digital audio, DTS and PCM can be decoded.

\*7: DivX Certified to play DivX video up to HD 1080p, including premium content.

GMC(Global Motion Compensation) is not supported.

### USB device:

USB Standard:	USB2.0 High Speed
Format:	FAT12, FAT16, FAT32, MP3, JPEG, MKV, DivX

### Contents:

#### JPEG:

CD-R/RW, BD-RE, DVD-R,USB device:	
Pixels:	34x34~8192x8192
Sub Sampling:	4:2:2, 4:2:0
	Motion JPEG not supported

Maximum numbers of folders and files:

	CD	BD-RE	DVD-R	USB device
Maximum folder	500	500	500	500
Maximum files(*8)	10000	10000	10000	10000

\*8: Total of the JPEG.

#### MP3:

CD-R, CD-RW, DVD-R, USB device:

Compression rate:	32kbps~320kbps
Sampling rate:	44.1kHz, 48kHz

#### AVCHD (H.264):

DVD: AVCHD format V1.0

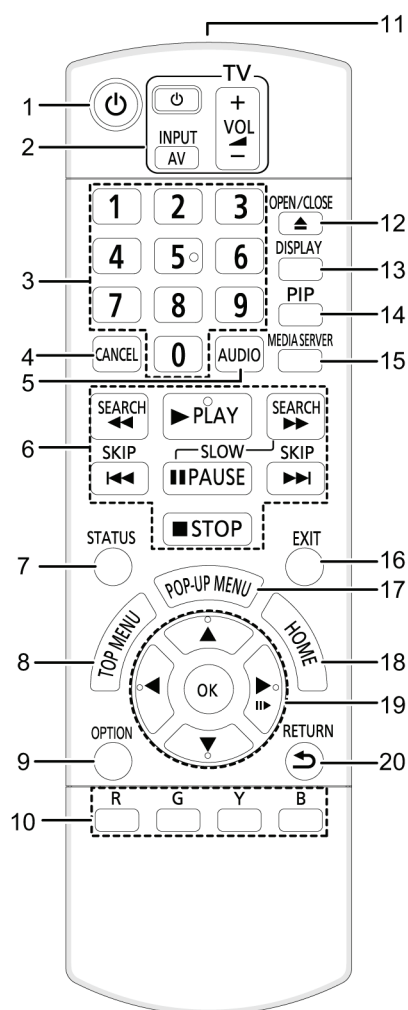
**HDMI:** 480p(525p)/576p(625p)(BD75GA/GC/GN/GT/GW)/1080i(1125i)/720p(750p)/1080p(1125p)  
HDMI (V.1.4a)  
(This unit supports "HDAVI Control 1" function.)

### Playable discs

BD-ROM(SL/DL): (SL:Single Layer/DL;Dual Layer)	compliant Ver.1.3
BD-RE(SL/DL): (SL:Single Layer/DL;Dual Layer)	BD-MV
BD-R(SL/DL): (SL:Single Layer/DL;Dual Layer)	BD-MV
DVD-ROM(SL/DL): (SL:Single Layer/DL;Dual Layer)	DVD-Video
DVD-R:	DVD-Video DVD-VR
DVD-R(DL):	DVD-Video DVD-VR
DVD-RW:	DVD-Video DVD-VR
+R:	Video
+R(DL):	Video
+RW:	Video
CD:	CD-DA, CD-Video, CD-R/RW
<b>Optical pick-up:</b>	System with 2 lenses
Wave length:	790 nm(CDs) 655 nm(DVDs) 405 nm(BDs)
<b>LASER specification</b>	
Class 1 LASER Product	
Wave length:	790 nm(CDs) 655 nm(DVDs) 405 nm(BDs)
Laser power:	No hazardous radiation is emitted with the safety protection
<b>Playable discs</b>	
BD-ROM(SL/DL): (SL:Single Layer/DL;Dual Layer)	compliant Ver.1.3
BD-RE(SL/DL): (SL:Single Layer/DL;Dual Layer)	BD-MV
BD-R(SL/DL): (SL:Single Layer/DL;Dual Layer)	BD-MV
DVD-ROM(SL/DL): (SL:Single Layer/DL;Dual Layer)	DVD-Video
DVD-R:	DVD-Video DVD-VR
DVD-R(DL):	DVD-Video DVD-VR
DVD-RW:	DVD-Video DVD-VR
+R:	Video
+R(DL):	Video
+RW:	Video
CD:	CD-DA, CD-Video, CD-R/RW
<b>Optical pick-up:</b>	System with 2 lenses
Wave length:	790 nm(CDs) 655 nm(DVDs) 405 nm(BDs)
<b>LASER specification</b>	
Class 1 LASER Product	
Wave length:	790 nm(CDs) 655 nm(DVDs) 405 nm(BDs)
Laser power:	No hazardous radiation is emitted with the safety protection
<b>Dimensions:</b>	
	430mm(W) 35mm(H) 179mm(D) (excluding the projecting parts) 185mm(D) (including the projecting parts)
<b>Mass:</b>	Approx. 1.6 kg
<b>Solder:</b>	This model uses lead free solder(PbF).
<b>Note:</b>	Specifications are subject to change without notice.

## 5 Location of Controls and Components

### Control reference guide



- 1 Turn the unit on and off
  - 2 **TV operation buttons**  
You can operate the TV through the unit's remote control.  
[TV] : Turn the television on and off  
[AV] : Switch the input select  
[+ - VOL] : Adjust the volume
  - 3 Select title numbers, etc./Enter numbers.
  - 4 Cancel
  - 5 Select audio
  - 6 Basic playback control buttons
  - 7 Show status messages
  - 8 Show Top menu/DIRECT NAVIGATOR
  - 9 Show OPTION menu
  - 10 Coloured buttons (red, green, yellow, blue)  
These buttons are used when;  
    - Operating a BD-Video disc that includes Java™ applications (BD-J).
  - 11 Transmit the remote control signal
  - 12 Open or close the disc tray
- CAUTION**  
Do not place objects in front of the unit. The disc tray may collide with objects when it is opened, and this may cause malfunction.
- 13 Show playback menu
  - 14 Switch on/off Secondary Video (Picture-in-picture)
  - 15 Start up the DLNA function
  - 16 Exit the menu screen
  - 17 Show Pop-up menu
  - 18 Show HOME menu
  - 19 Selection/OK, Frame-by-frame
  - 20 Return to previous screen



- 1 **Standby/on switch (⏻/⏻)**  
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- 2 Disc tray
- 3 USB port
- 4 Display
- 5 Remote control signal sensor  
Distance: Within approx. 7 m  
Angle: Approx. 20° up and down, 30° left and right
- 6 Stop
- 7 Start play
- 8 Open or close the disc tray

## 6 Operating Instructions

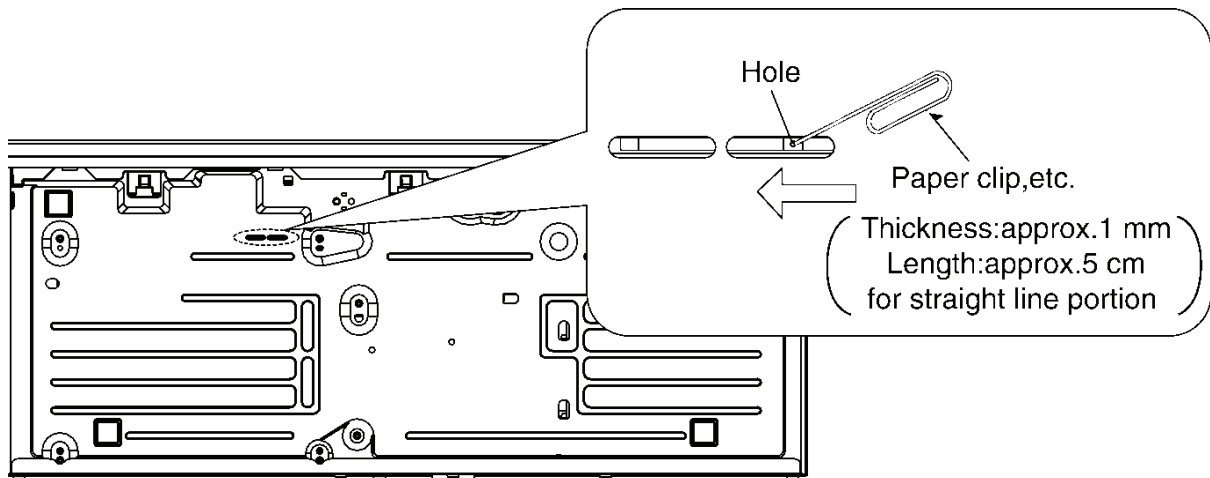
### 6.1. Taking out the Disc from BD-Drive Unit when the Disc cannot be ejected by OPEN/CLOSE button

#### 6.1.1. Forcible Disc Eject

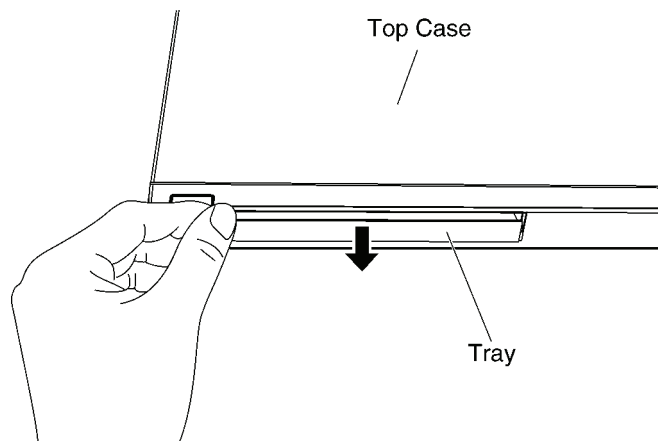
1. Turn on the power, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds.  
-"00 RET" is displayed on the unit's display.
2. Repeatedly press [▶] on the remote control or [POWER] on the unit until "06 FTO" is displayed on the unit's display.
3. Press [OK] on the remote control or [OPEN/CLOSE] on the unit.

#### 6.1.2. When the Forcible Disc Eject can not be done.

1. Turn off the power and pull out AC cord.
2. Put deck so that bottom can be seen.
3. Insert the Paper clips, etc. into the hole on the bottom of BD Drive and slide the Paper clips, etc. in the direction of the arrow to eject tray slightly.



4. Put deck upward, and pick out Tray by finger.



# 7 Service Mode

## 7.1. Self-Diagnosis and Special Mode Setting

### 7.1.1. Self-Diagnosis Functions

Self-Diagnosis Function provides information for errors to service personnel by "Self-Diagnosis Display" when any error has occurred.

**U\*\* and F\*\* are stored in memory and held.**

You can check latest error code by transmitting [0] [1] of Remote Controller in Service Mode.

Automatic Display on FL will be cancelled when the power is turned off or AC input is turned off during self-diagnosis display is ON.

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
U30	Remote control code error	Display appears when main unit and remote controller codes are not matched.	No display	<div>SET *</div> <p>* is remote controller code of the main unit. Display for 5 seconds.</p>
U59	Abnormal inner temperature detected	Display appears when the drive temperature exceeds 70°C. The power is turned off forcibly. For 30 minutes after this, all key entries are disabled. The event is saved in memory as well.	No display	<div>U59</div> <p>U59 is displayed for 30 minutes.</p>
U71	HDMI incompatible error (HDMI incompatible)	Display this error when the equipment (compatible with DVI such as TV, amplifier etc.) connected to the unit by HDMI is incompatible with HDCP (High-bandwidth Digital Content Protection).	No display	<div>U71</div>
U72	HDMI connection error (communication error)	This error is displayed when there are any communication problems with the unit and the equipments (TV, amplifier etc.) connected to the unit by HDMI. (or when there is a problem with the HDMI cable) The display disappears only when the connection is released. Neither the button operation nor the passage of the fixed time disappear the display.	No display	<div>U72</div> <p>U72 display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.</p>
U73	HDMI connection error (authentication error)	When authentication error occurs while the equipments (TV, amplifier etc.) are connected by HDMI. (or when there is a problem with the HDMI cable) The display disappears only when the connection is released. Neither the button operation nor the passage of the fixed time disappear the display.	No display	<div>U73</div> <p>U73 display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.</p>
U76	Connection error	Display this error when the equipment (compatible with DVI such as TV, amplifier etc.) connected to the unit by HDMI is incompatible with HDCP (High-bandwidth Digital Content Protection).	No display	<div>U76</div>
U77	Illegal disc error	This error is displayed when it becomes impossible to reproduce because of copyright illegal information.	No display	<div>U77</div>
U88	Restoration is operation. (When the disc is in the disc tray)	This error is displayed when there is a disc in the disc tray or abnormality is confirmed during playback. It is shown that the restoration to return the main unit operation normally is operating. It becomes possible to use as soon as not the breakdown but the U88 display disappears.	No display	<div>U88</div> <p>Display for 30 seconds.</p>
F00	No error information	Initial setting for error code in memory (Error code Initialization is possible with error code initialization and main unit initialization.)	No display	No display
F34	Initialization error	When initialization error is detected after starting up main microprocessor, the power is turned off automatically. The event is saved in memory.	No display	No display



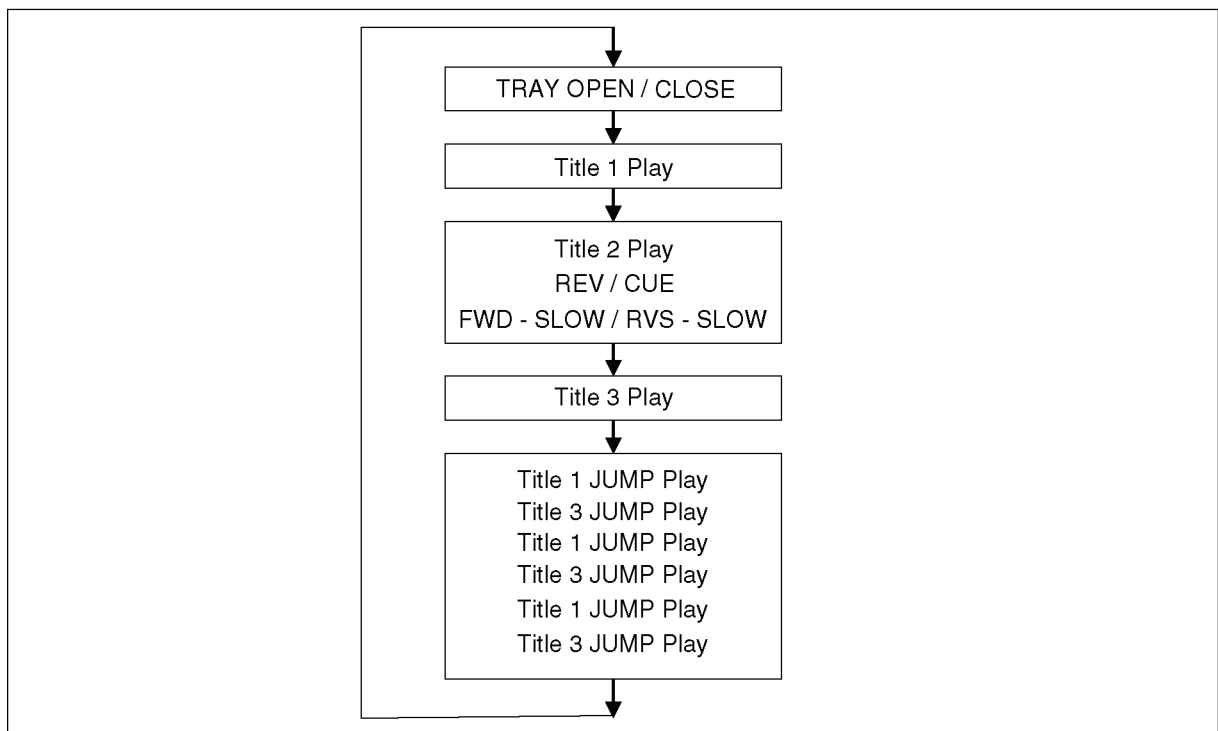
Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
F58	Drive hardware error	When drive unit error is detected, the event is saved in memory.	No display	No display
F74	HDMI Device Key Communication error.	This error is displayed when the information error is occurred at HDMI device key loading.	No display	F74
F75	HDMI incompatible error (HDMI incompatible)	Display this error when the equipment (compatible with DVI such as TV, amplifier etc.) connected to the unit by HDMI is incompatible with HDCP (High-bandwidth Digital Content Protection).	No display	F75
F99	Hang-up	Displayed when communication error has occurred between Main microprocessor and Timer microprocessor.	No display	F99 Displayed is left until the [POWER] key is pressed.
UNSUPPORT	Unsupported disc error	*An unsupported format disc was played, although the drive starts normally. *The data format is not supported, although the media type is supported. *Exceptionally in case of the disc is dirty.	"This disc is incompatible."	UNSUPPORT It is displayed for 5 seconds. The character indication flows sideways.
NO READ	Disc read error	*A disc is flawed or dirty. *A poor quality failed to start. *The track information could not be read.	"Cannot read. Please check the disc."	No READ
HARD ERR	Drive error	The drive detected a hard error.	"BD drive error."	HARD ERR It is display for 5 seconds. The character indication flows sideways.
SELF CHECK	Restoration operation	Since the power cord fell out during a power failure or operation, it is under restoration operation. *It will OK, if a display disappears automatically. If a display does not disappear, there is the possibility that defective Digital P.C.B. / BD drive.	No display	SELF CHECK The character indication flows sideways.
UNFORMAT	Unformatted disc error	This error is displayed when the unformatted DVD-RAM or DVD-RW recorded by another make of recorder is inserted.	No display	UNFORMAT This disc is not formatted properly. Format the disc in DISC MANAGEMENT?
PLEASE WAIT	Unit is in termination process	Unit is in termination process now. "BYE" is displayed and power will be turned off.	No display	PLEASEWAIT The character indication flows sideways.
No PLAY	When there is a viewing restriction on a BD-Video or DVD-Video.	Rating password is set.	No display	No PLAY

## 7.1.2. Special Modes Setting

Item		FL display	Key operation
Mode name	Description		
Rating password	The audiovisual level setting password is initialized to Level 8.	① 00 RET ② 03 VL	① While the unit is on, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display. ② Repeatedly press [▶] on the remote control or [POWER] on the unit until "03 VL" is displayed on the unit's display. ③ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.
Service Mode	Setting every kind of modes for servicing. *Details are described in <b>7.1.3. (BD) Service Mode at a glance.</b>	② 70 RET ③ 80 SRV ④ HELLO -- SERV	① Turn the power on. ② Press the [5] [9] and [R] button simultaneously for five seconds, then [70 RET] is displayed on FL. ③ Press the [▶] button to select until [80 SRV] is displayed on FL. ④ Press the [OK] button. *The command is transmitted by attached remote control.
BD-ROM history cleaning	< Persistent Storage> of BD-ROM standard is cleaned.	① 50 RET ② 51 NOP ③ 52 BRE ④ FINISH	① When the power is on, disc is not in tray, press and hold [6], [7] and [Y] on the remote control at the same time for more than 5 seconds. - "50 RET" is displayed on the unit's display. ② Repeatedly press [▶] on the remote control or [POWER] on the unit until "51 NOP" is displayed on the unit's display. ③ Press and hold [STOP] on the remote control until "52 BRE" is displayed on the unit's display. ④ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.
Forced disc eject	Removing a disc that cannot be ejected. While Demonstration Lock is being set, this Forced disc eject function is not accepted.	① 00 RET ② 06 FTO	① While the unit is on, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display. ② Repeatedly press [▶] on the remote control or [POWER] on the unit until "06 FTO" is displayed on the unit's display. ③ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.
Forced power-off	When the power button is not effective while power is ON, turn off the power forcibly.	Display in P-off mode.	Press [POWER] key over than 4 seconds.

Item		FL display	Key operation
Mode name	Description		Front Key
Aging	Perform sequence of modes as * Aging Description shown below continually.	Display following the then mode.	① Turn the power on. ② Press the [5] [9] and [R] button simultaneously for five seconds, then [70 RET] is displayed on FL. ③ Press the [▶] button to select until [81 AIG] is displayed on FL. ④ Press the [OK] button . *The command is transmitted by attached remote control. <b>NOTE1:</b> If the unit has hung-up because of pressing keys for over 10 seconds, once turn off the power, and re-execute this command. *When releasing Aging mode, press [POWER] key over 4 seconds.

#### Aging Contents (Example):



Item		FL display	Key operation
Mode name	Description		Front Key
Demonstration lock/unlock	Ejection of the disc is prohibited. The lock setting is effective until unlocking the tray and not released by Main unit initialization of service mode.	<p>*When lock the tray.</p> <p>① 00 RET</p> <p>② 04 PRG</p> <p>③ 10 OCL</p> <p>④ LOCK</p> <p>"LOCK" is displayed for 3 seconds.</p>	<p>① When the power is on, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display.</p> <p>② Repeatedly press [▶] on the remote control or [POWER] on the unit until "04 PRG" is displayed on the unit's display.</p> <p>③ Press and hold [STOP] on the remote control until "10 OCL" is displayed on the unit's display.</p> <p>④ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.</p>
		<p>*When unlock the tray.</p> <p>① 00 RET</p> <p>② 04 PRG</p> <p>③ 10 OCL</p> <p>④ UNLOCK</p> <p>"UNLOCK" is displayed for 3 seconds.</p>	<p>① When the power is on, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display.</p> <p>② Repeatedly press [▶] on the remote control or [POWER] on the unit until "04 PRG" is displayed on the unit's display.</p> <p>③ Press and hold [STOP] on the remote control until "10 OCL" is displayed on the unit's display.</p> <p>④ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.</p>
		<p>*When press [OPEN/CLOSE] key while the tray being locked.</p> <p>LOCK</p> <p>Display LOCK for 3 seconds.</p>	Press [OPEN/CLOSE] key while the tray is being locked.
Progressive initialization	The progressive setting is initialized to Interlace.	<p>① 00 RET</p> <p>② 04 PRG</p>	<p>① When the power is on, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display.</p> <p>② Repeatedly press [▶] on the remote control or [POWER] on the unit until "04 PRG" is displayed on the unit's display.</p> <p>③ Press and hold [OK] on the remote control or [OPEN/CLOSE] on the unit.</p>
Default setting	The date of Menu, Mode and EEPROM setting, etc. is set to the default condition in factory.	<p>① 00 RET</p> <p>② 08 FIN</p> <p>③ no disc--bye</p>	<p>① While the unit is on, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display.</p> <p>② Repeatedly press [▶] on the remote control or [POWER] on the unit until "08 FIN" is displayed on the unit's display.</p> <p>③ Press and hold [OK] on the remote control or [OPEN/CLOSE] on the unit for at least 3 seconds.</p>

### 7.1.3. Service Modes at a glance

Information necessary for service can be displayed.

Service mode setting:


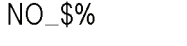

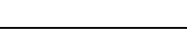
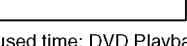
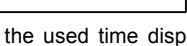

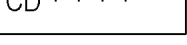

1. Turn the power on.
2. Press the [5] [9] and [R] button simultaneously for five seconds, then [70 RET] is displayed on FL.
3. Press the [▶] button to select until [80 SRV] is displayed on FL.
4. Press the [OK] button.
5. It is displayed on FL as [HELLO-->SERV].: It is shown to have entered the service mode.
6. The command is transmitted by attached remote control.

Method of making clear service mode: Press the power button (power off).

The display of information to each command is as follows.

**NOTE:**

Do not use it excluding the designated command.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Release Items	Item of Service Mode executing is cancelled.	SERV_	Press [0] [0] or [Return] in service mode.
Error Code Display	Last Error Code of U/F held by Timer is displayed on FL. *Details are described in <b>7.1.1. Self-Diagnosis Functions.</b>	 *● shows U/F. ○○ shows number. If any error history dose not exist, [F00] is displayed.	Press [0] [1] in service mode
ROM Version Display	The display contents are switched over every 5 seconds. 1. Region code 2. Main firm version 3. Boot View version 4. Timer firm version 5. Drive firm version	1.  \$: Region of DVD (Example: 1,2.....) %: Region of BD (Example: A,B.....) 2.  3.  4.  5. 	Press [0] [2] in service mode
Laser Used Time Indication	Check laser used time (hours) of drive.	Laser used time: BD Playback  Laser used time: DVD Playback  Laser used time: CD Playing  ● (****) is the used time display in hour. ● Laser used time of BD/ DVD/ CD in Playback mode is counted.	Press [4] [1] in service mode.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
BD drive last error	BD drive error code display.	<p>1. Error Number is displayed for 5 seconds.</p> <div>NO **</div> <p>2. Time when the error has occurred is display for 5 seconds.</p> <div>YYMMDD</div> <p>YY: Year MM: Month DD: Day</p> <p>3. Last drive error (1/2) is displayed for 5 seconds.</p> <div>*****</div> <p>00 : Bad disc 03 : Bad disc 04 : Bad disc or drive malfunction</p> <p>4. Last drive error (2/2) is displayed for five seconds.</p> <div>*****</div> <p>5. Error occurring disc type is displayed for 5 seconds.</p> <p>DVD ROM</p> <div>DVD</div> <p>CD</p> <div>CD</div> <p>DVD-RAM (2.6GB)</p> <div>RAM26</div> <p>DVD-RAM (4.7GB)</p> <div>RAM47</div> <p>DVD-R</p> <div>DVDR</div> <p>DVD-RW</p> <div>DVDRW</div> <p>CD-R</p> <div>CDR</div>	Press [4] [2] in service mode.

Item		FL display	Key operation (Remote controller key)												
Mode name	Description														
		<div>CD-RW</div> <div>CDRW</div> <div>DVD+R</div> <div>DVDPR</div> <div>DVD+RW</div> <div>DVDPRW</div> <div>BD-ROM</div> <div>BDROM</div> <div>BD-RE</div> <div>BDRE</div> <div>BD-R</div> <div>BDR</div> <div>Others</div> <div>MEDIA*</div> <div>* is displayed the respoced value from RTSC.</div>													
		<div>6. Disc maker ID is displayed for 5 seconds.</div> <div>*****</div> <div>7. Factor of drive error (hexadecimal) occurring is left displayed.</div> <div>* * + + &amp; &amp;</div> <div>* * : Error occurring operation code (This is not used)</div> <div>+ + : Error occurring disc type</div> <table><tr><td>00</td><td>DVD-ROM</td></tr><tr><td>01</td><td>CD</td></tr><tr><td>02</td><td>2.6GB DVD-RAM</td></tr><tr><td>03</td><td>4.7GB DVD-RAM</td></tr><tr><td>04</td><td>DVD-R</td></tr><tr><td>After 05</td><td>Others</td></tr></table>	00	DVD-ROM	01	CD	02	2.6GB DVD-RAM	03	4.7GB DVD-RAM	04	DVD-R	After 05	Others	In case that the maker cannot be identified, display is blackout.
00	DVD-ROM														
01	CD														
02	2.6GB DVD-RAM														
03	4.7GB DVD-RAM														
04	DVD-R														
After 05	Others														

Item		FL display	Key operation (Remote controller key)																																																																							
Mode name	Description																																																																									
		<p>&amp;&amp; : Error occurring disc situation</p> <table border="1"> <thead> <tr> <th rowspan="2">Display</th><th colspan="3">Detail</th></tr> <tr> <th>Disc distinction</th><th>With or without Cartridge</th><th>Disc cart-ridge state</th></tr> </thead> <tbody> <tr><td>00</td><td>OK</td><td>With</td><td>Not opened</td></tr> <tr><td>10</td><td>OK</td><td>With</td><td>Not opened</td></tr> <tr><td>20</td><td>OK</td><td>With</td><td>Opened</td></tr> <tr><td>30</td><td>OK</td><td>With</td><td>Opened</td></tr> <tr><td>40</td><td>OK</td><td>Without</td><td>Not opened</td></tr> <tr><td>50</td><td>OK</td><td>Without</td><td>Not opened</td></tr> <tr><td>60</td><td>OK</td><td>Without</td><td>Opened</td></tr> <tr><td>70</td><td>OK</td><td>Without</td><td>Opened</td></tr> <tr><td>80</td><td>NG</td><td>With</td><td>Not opened</td></tr> <tr><td>90</td><td>NG</td><td>With</td><td>Not opened</td></tr> <tr><td>A0</td><td>NG</td><td>With</td><td>Opened</td></tr> <tr><td>B0</td><td>NG</td><td>With</td><td>Opened</td></tr> <tr><td>C0</td><td>NG</td><td>Without</td><td>Not opened</td></tr> <tr><td>D0</td><td>NG</td><td>Without</td><td>Not opened</td></tr> <tr><td>E0</td><td>NG</td><td>Without</td><td>Opened</td></tr> <tr><td>F0</td><td>NG</td><td>Without</td><td>Opened</td></tr> </tbody> </table> <p>8. When the last error doesn't exist .</p> <div>NO DATA</div>	Display	Detail			Disc distinction	With or without Cartridge	Disc cart-ridge state	00	OK	With	Not opened	10	OK	With	Not opened	20	OK	With	Opened	30	OK	With	Opened	40	OK	Without	Not opened	50	OK	Without	Not opened	60	OK	Without	Opened	70	OK	Without	Opened	80	NG	With	Not opened	90	NG	With	Not opened	A0	NG	With	Opened	B0	NG	With	Opened	C0	NG	Without	Not opened	D0	NG	Without	Not opened	E0	NG	Without	Opened	F0	NG	Without	Opened	
Display	Detail																																																																									
	Disc distinction	With or without Cartridge	Disc cart-ridge state																																																																							
00	OK	With	Not opened																																																																							
10	OK	With	Not opened																																																																							
20	OK	With	Opened																																																																							
30	OK	With	Opened																																																																							
40	OK	Without	Not opened																																																																							
50	OK	Without	Not opened																																																																							
60	OK	Without	Opened																																																																							
70	OK	Without	Opened																																																																							
80	NG	With	Not opened																																																																							
90	NG	With	Not opened																																																																							
A0	NG	With	Opened																																																																							
B0	NG	With	Opened																																																																							
C0	NG	Without	Not opened																																																																							
D0	NG	Without	Not opened																																																																							
E0	NG	Without	Opened																																																																							
F0	NG	Without	Opened																																																																							
CEC (H) output	The CEC terminal high output of HDMI.	<div>CEC HI</div>	Press [5] [5] in service mode.																																																																							
CEC (L) output	The CEC terminal low output of HDMI.	<div>CEC LO</div>	Press [5] [6] in service mode.																																																																							
Manufacturing Date	Read out the manufacturing date of the unit.	<div>YYMMDD</div> <p>YY: Year MM: Month DD: Day</p>	Press [6] [1] in service mode.																																																																							
Tray OPEN/CLOSE Test	The BD drive tray is opened and closed repeatedly.	<div>*****</div> <p>* is number of open/close cycle times.</p>	Press [9] [1] in service mode *When releasing this mode, press the [POWER] button of Remotes Controller more than 10 seconds.																																																																							
Delete the Laser Used Time	Laser used time information stored in the memory of the unit is deleted.	<div>CLR</div>	Press [9] [5] in service mode.																																																																							
Delete the Last Drive Error	Laser Drive Error information stored on the BD Drive is deleted.	<div>CLR</div>	Press [9] [6] in service mode.																																																																							
Delete the Error History	Error History information stored on the unit is deleted.	<div>CLR</div>	Press [9] [7] in service mode.																																																																							
Initialization of the Error code	Last Error Code information stored by timer is deleted. (Write in F00)	<div>CLR</div>	Press [9] [8] in service mode.																																																																							
Initialization of the Service Mode	Last Drive Error, Error History and Error code information stored on the unit are initialized to factory setting.	<div>CLR</div>	Press [9] [9] in service mode.																																																																							
Release Service Mode	Release Service Mode and turns the Power Off.	<div>*****</div> <p>Display in STOP (SS) mode.</p>	Press [POWER] button on the front panel or Remote controller in service mode.																																																																							



## 8 Service Fixture & Tools

Part Number	Description	Pcs	Compatibility
RFKZ0216	Extension Cable ( Digital P.C.B. - Power P.C.B. / 23 Pin)	1	Same as BD60 Series
RFKZ03D01KS	Lead Free Solder (0.3mm/100g Reel)		Same as BD60 Series
RFKZ06D01KS	Lead Free Solder (0.6mm/100g Reel)		Same as BD60 Series
RFKZ10D01KS	Lead Free Solder (1.0mm/100g Reel))		Same as BD60 Series
RFKZ0316	Solder Remover (Lead free low temperature Solder/50g)		Same as BD60 Series
RFKZ0328	Flux		Same as BD60 Series

\* The above parts are supplied by AVC-CSC-SPC.

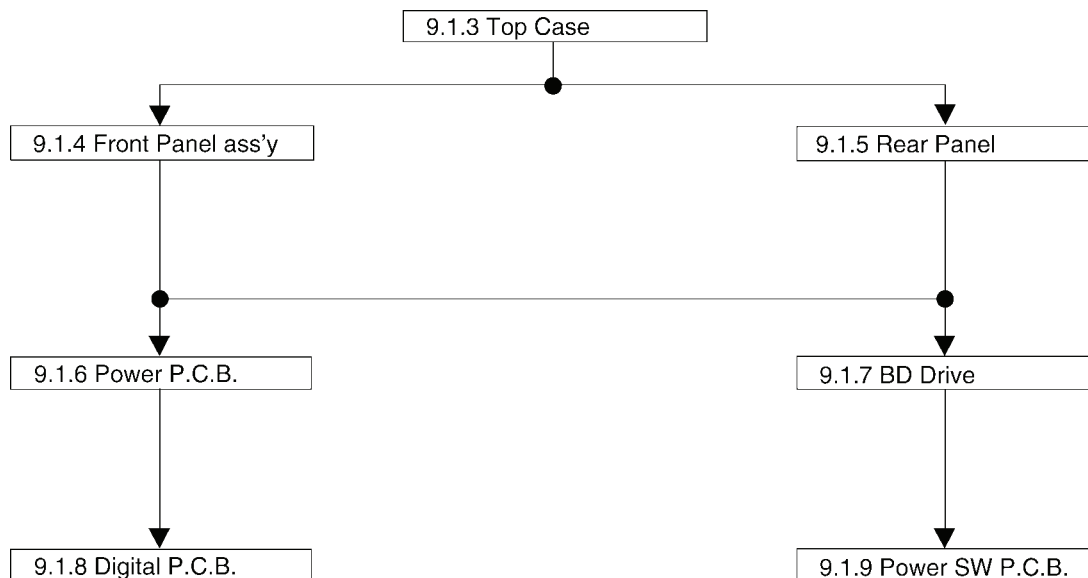
## 9 Disassembly and Assembly Instructions

### 9.1. Unit

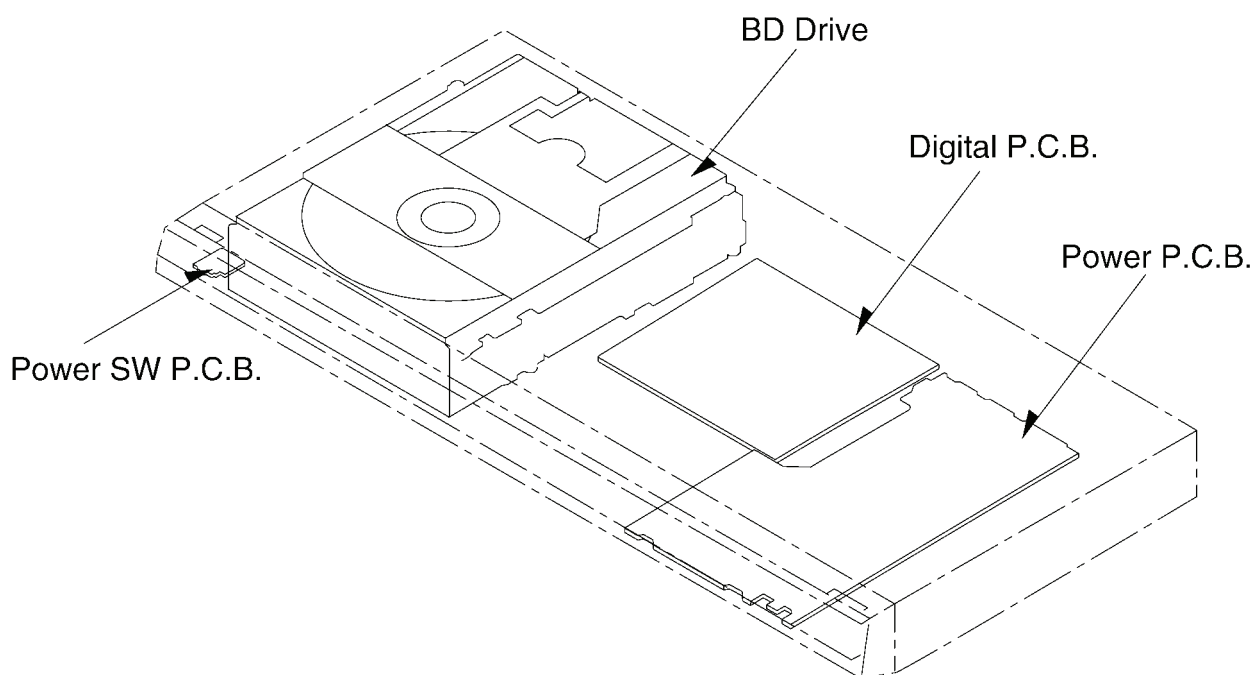
#### 9.1.1. Disassembly Flow Chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.

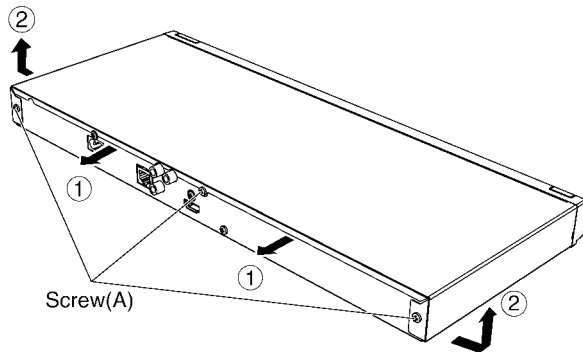


#### 9.1.2. P.C.B. Positions



### 9.1.3. Top Case

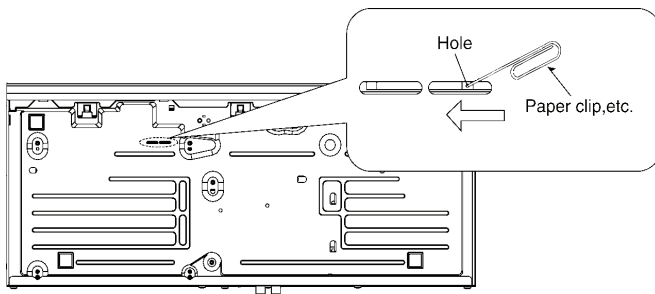
1. Remove the 3 Screws (A) .
2. Slide Top Case rearward and open the both ends at rear side of the Top Case a little and lift the Top Case in the direction of the arrows.



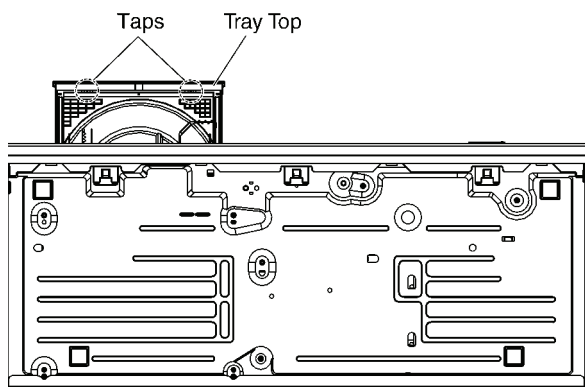
### 9.1.4. Front Panel ass'y

#### 9.1.4.1. Tray Top

1. Put deck so that bottom can be seen.
2. Insert the Paper clip, etc. into the hole on the bottom of BD Drive and slide the Paper clips, etc. in the direction of the arrow to eject tray slightly.

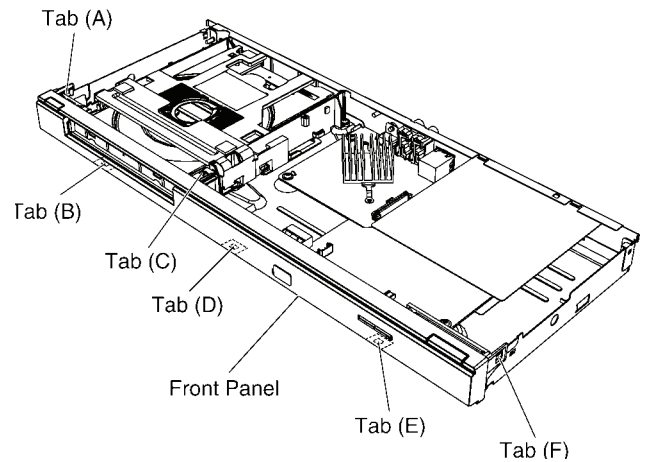


3. Remove the tray top from the tray section.



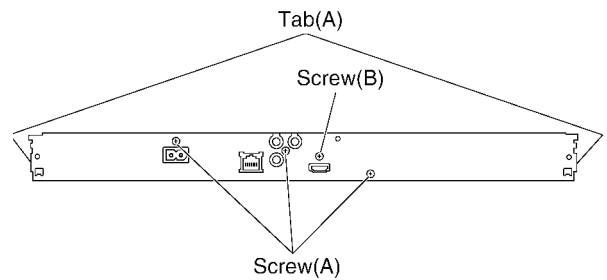
### 9.1.4.2. Front Panel

1. Unlock 6 tabs (A)-(F) turn. Pull with the Front Panel in the direction of your side.



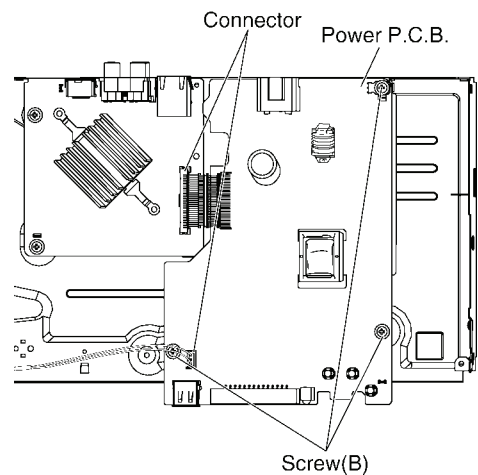
### 9.1.5. Rear Panel

1. Remove the 3 Screws (A) and Screw (B).
2. Unlock 2 locking Tabs (A) to remove the Rear Panel.



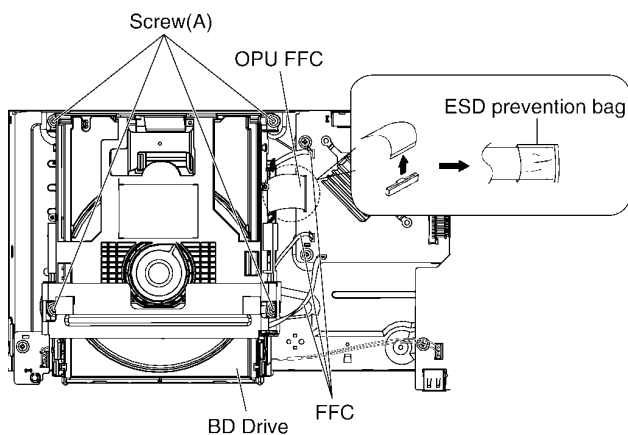
### 9.1.6. Power P.C.B.

1. Remove the 2 connectors.
2. Remove the 3 Screws (B).



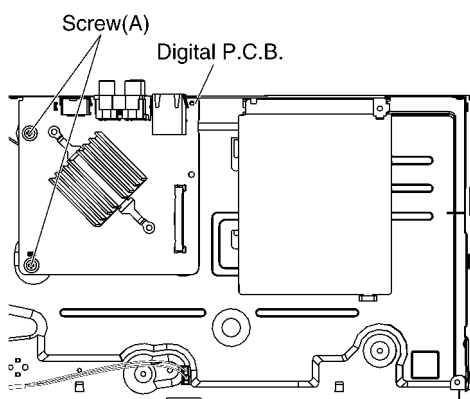
### 9.1.7. BD Drive

1. Remove the OPU FFC, and isolate it with an ESD prevention bag (RPFC0114) to prevent the laser diode from the ESD damage. Do not touch the OPU FFC conductive surface.
2. Remove the 3 FFCs.
3. Remove the 4 Screws (A) to remove BD Drive.



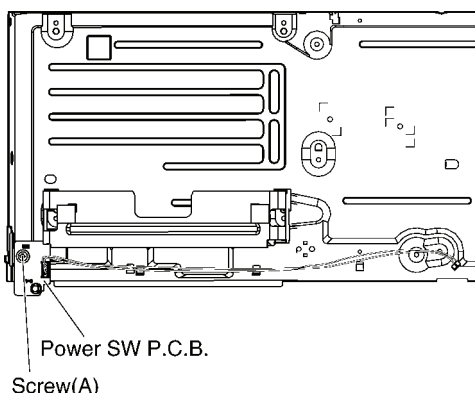
### 9.1.8. Digital P.C.B.

1. Remove the 2 Screws (A).



### 9.1.9. Power SW P.C.B.

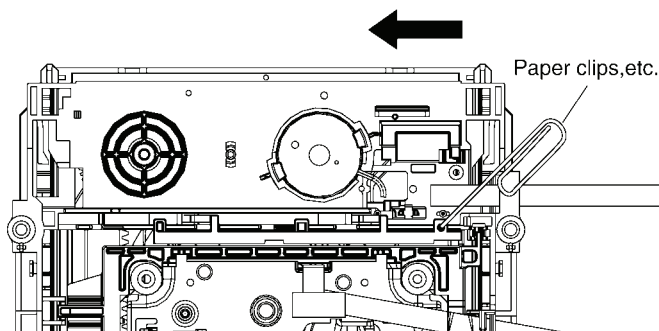
1. Remove the Screw (A).



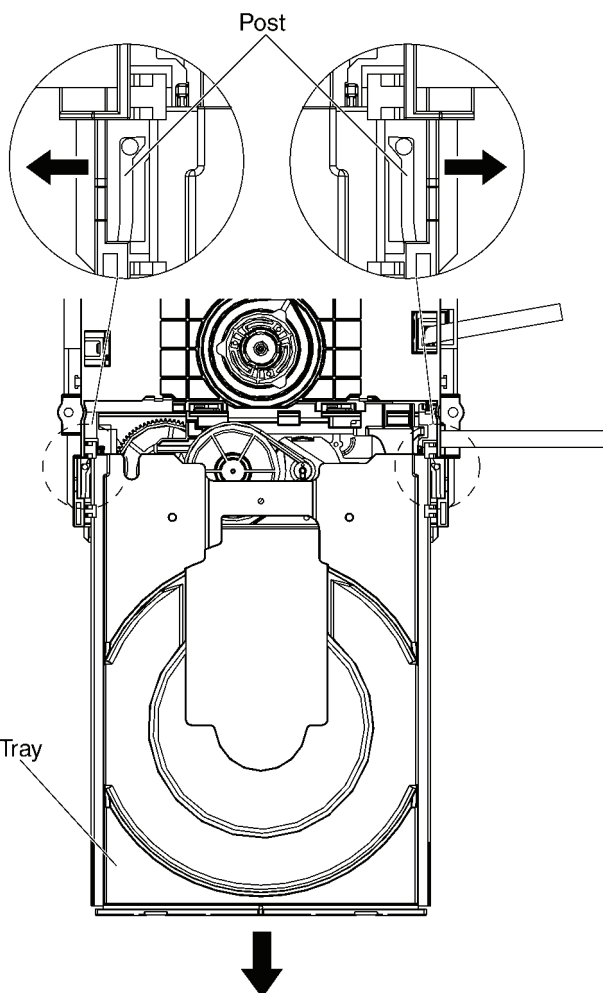
## 9.2. BD Drive

### 9.2.1. Tray

1. Insert the Paper clips, etc. into the hole of the bottom side, and slide it to the direction of arrow until it can be.

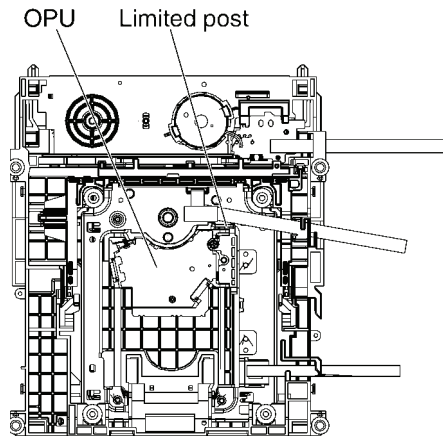


2. Pull the Tray to the direction of arrow until it can be.
3. Push the two posts in front of the mecha chassis to both sides of the drive to unlock the tray, and push it outward simultaneously.

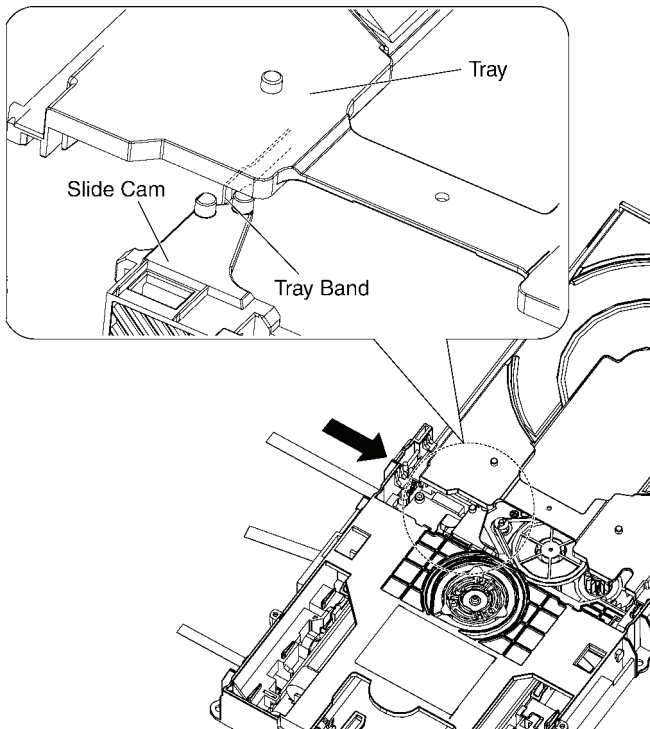


#### Notes when attaching the tray:

1. Be sure to leave the OPU at the inner limited posts.

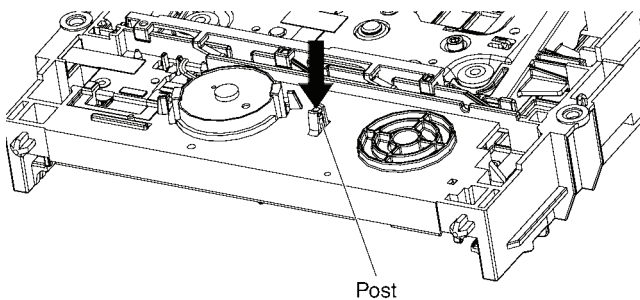


2. Push Slide cam to the left side slightly, and make sure the tray band is between the two posts of Slide cam when attaching the tray.

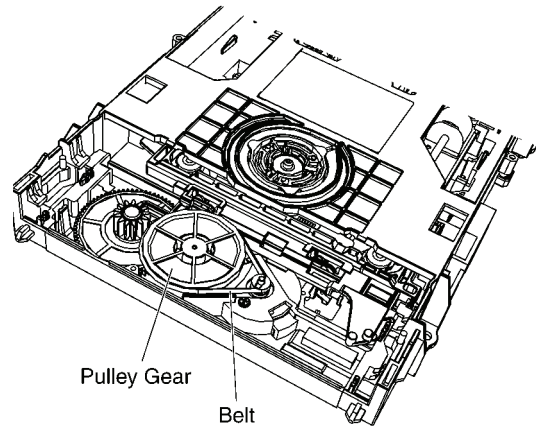


#### 9.2.2. Pulley Gear, Belt

1. Perform the step "Tray".
2. Push the Post to the direction of arrow by using the slotted screwdriver.

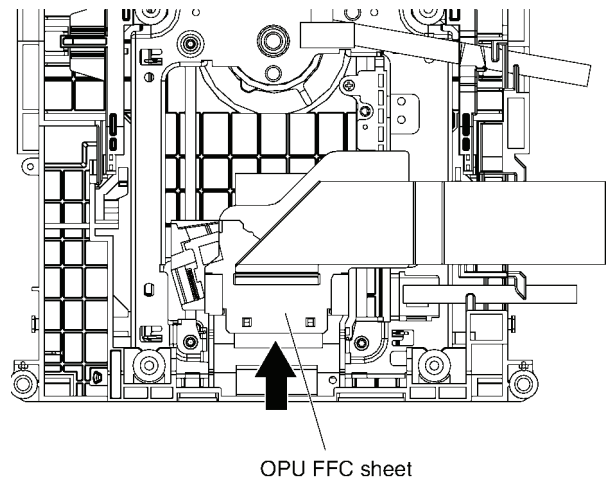


3. Remove the Pulley Gear and Belt.

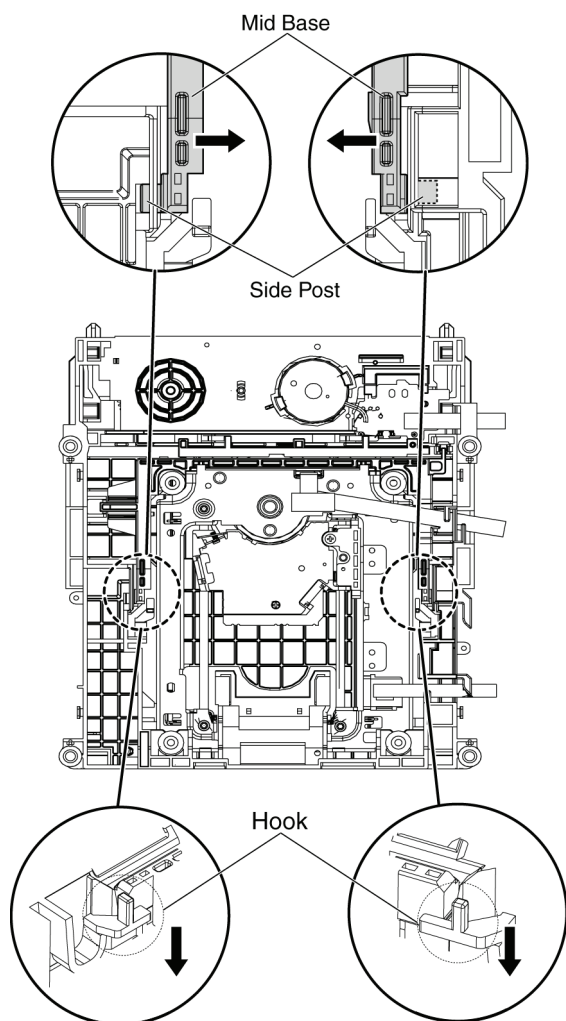


#### 9.2.3. Slide Cam

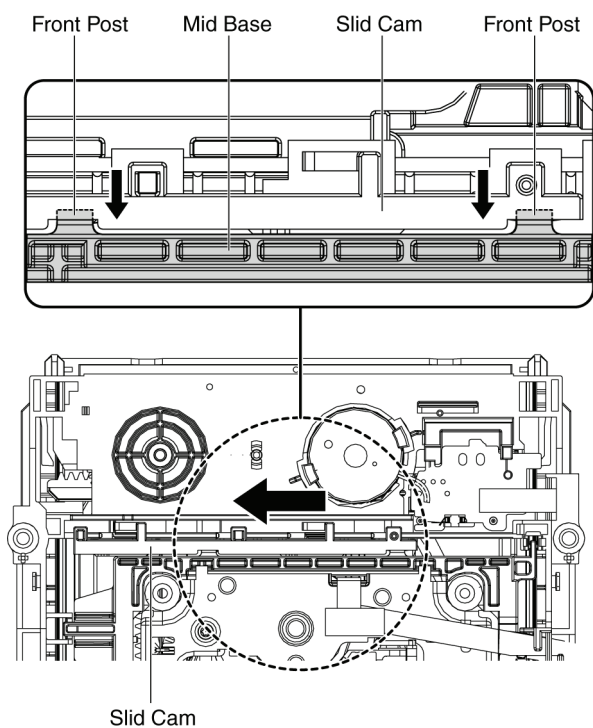
1. Perform the step "Pulley Gear, Belt".
2. Remove the OPU FFC sheet from the mecha chassis.



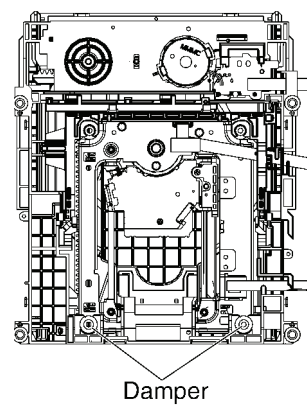
3. Pull the hooks at both sides to remove the side post on the mid base.



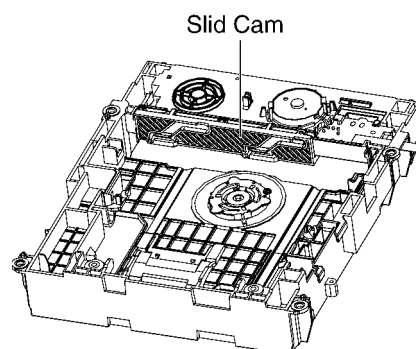
4. Slide the Slid cam in the direction as shown, and then take the front post out of the slide cam track.



5. Take the damper out of the mecha chassis and remove the Drive assembly.

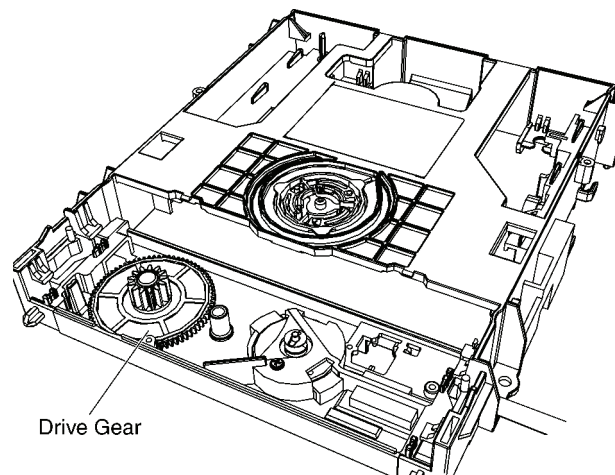


6. Remove the Slide Cam.

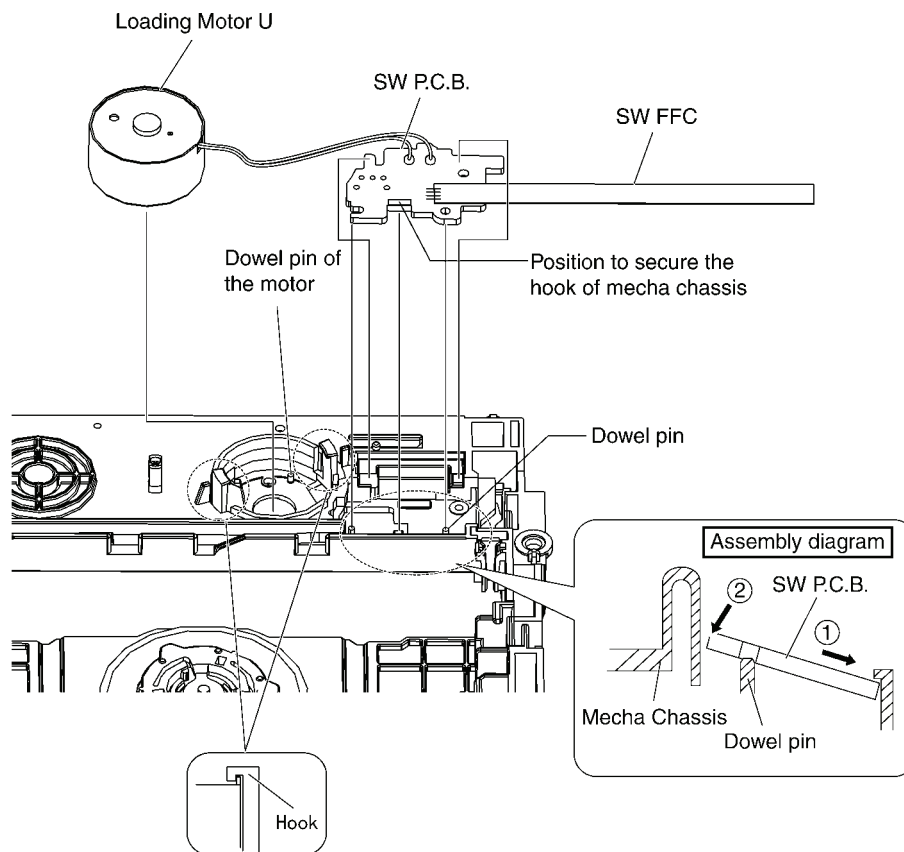


### 9.2.4. Drive Gear and Loading Motor

1. Perform the step "Slide Cam".
2. Remove the Drive Gear.



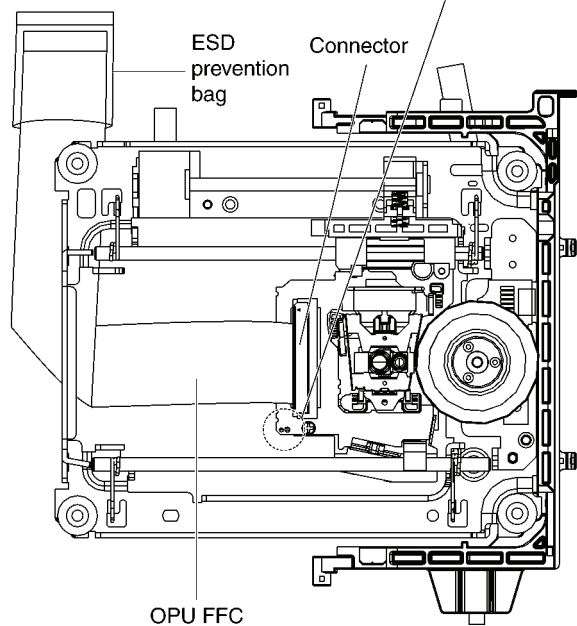
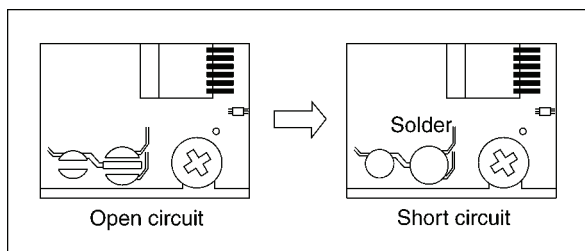
3. Loosen the hooks, and remove the Loading Motor Unit and the SW P.C.B.



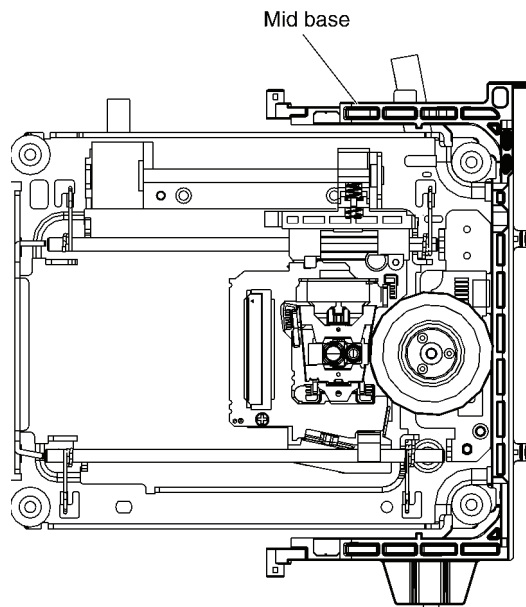
### 9.3. Disassembly from the traverse unit, assembly of the optical pick-up unit, and precautions on ESD-preventive

#### 9.3.1. Disassembly

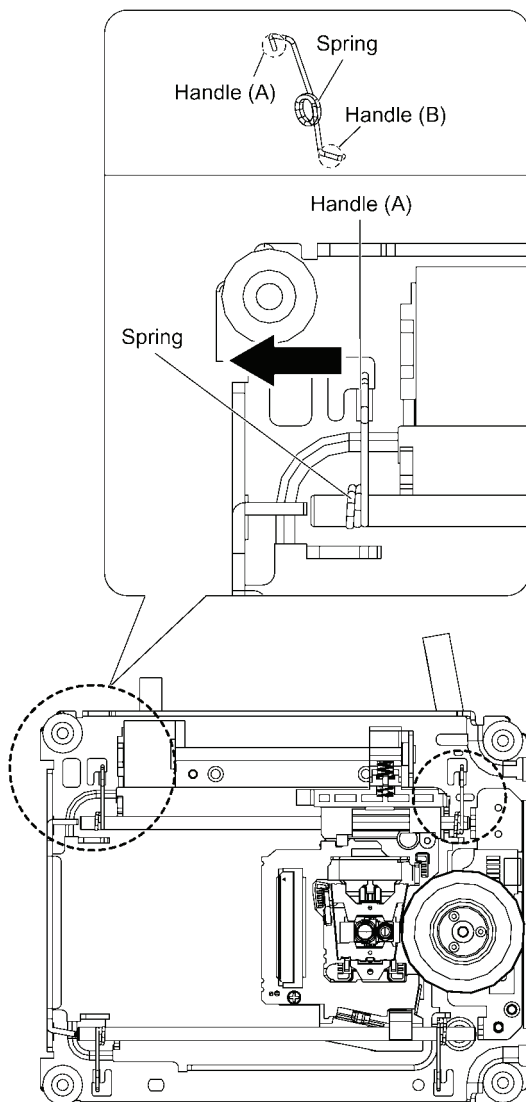
1. Before removing the optical pick-up unit, please apply an ESD prevention bag(RPFC0114) to the OPU FFC, and weld the short-circuit solder.
  - a. Set the temperature of iron is 350°C.
  - b. When using the iron head, do not apply a force more than 1N to the pad. Do not touch any other components around the welding spot.
  - c. Welding should be applied less than 3 times.
2. Remove the connector, and take out the OPU FFC.



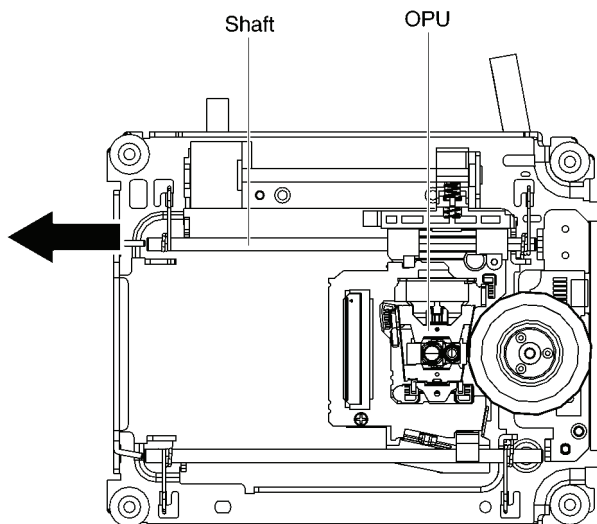
3. Remove the Mid base.



4. Press down the handle A of the two springs, and remove the shaft with OPU.

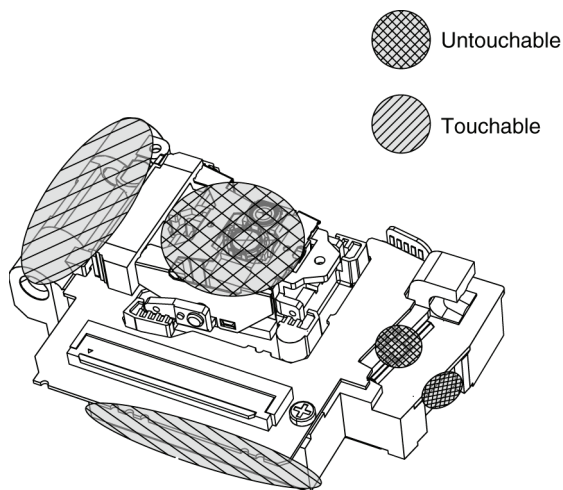




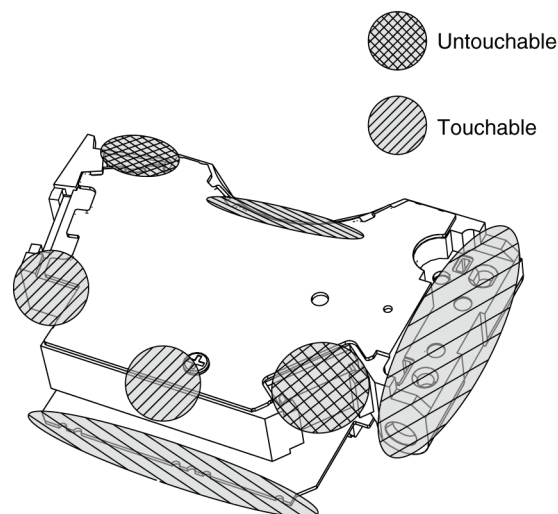


**NOTE:**

In this action, finger stab needs to be put on.  
Do not touch any parts other than the positions marked in the Figure.



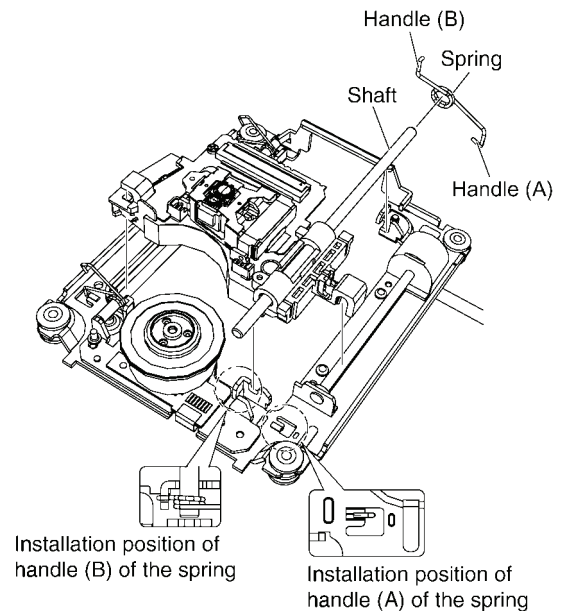
P.C.B end face and the Base face



P.C.B end face

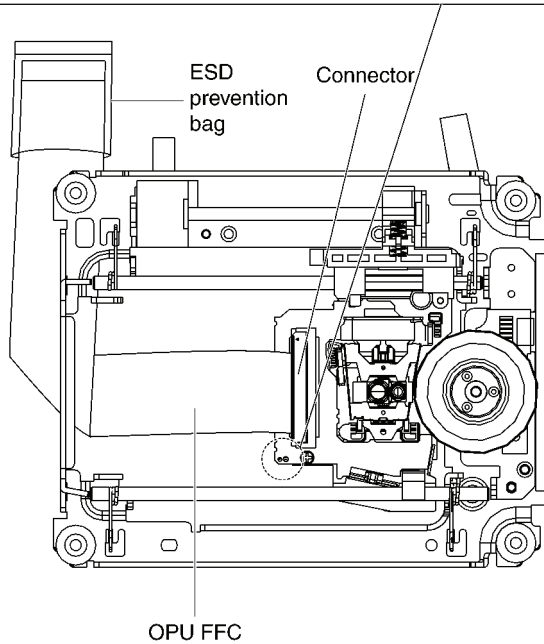
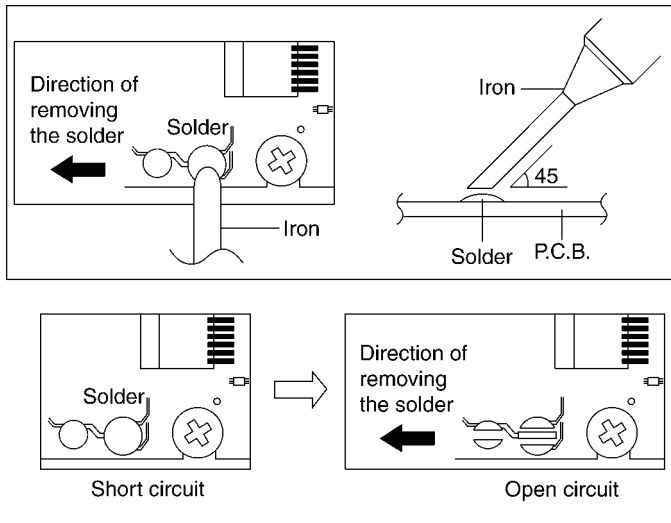
### 9.3.2. Assembly

1. Insert the shaft into the shaft hole of the base, install the OPU to the auxiliary shaft, and then attach the nut piece unit onto the screw stem.
2. Assembly of spring.
  - a. Insert the two springs to the ends of the shaft.
  - b. Then insert the handle (B) of the spring into the spring holder(as shown in Fig).
  - c. Press down the handle (A) of the spring (as shown in Fig) into the hole.

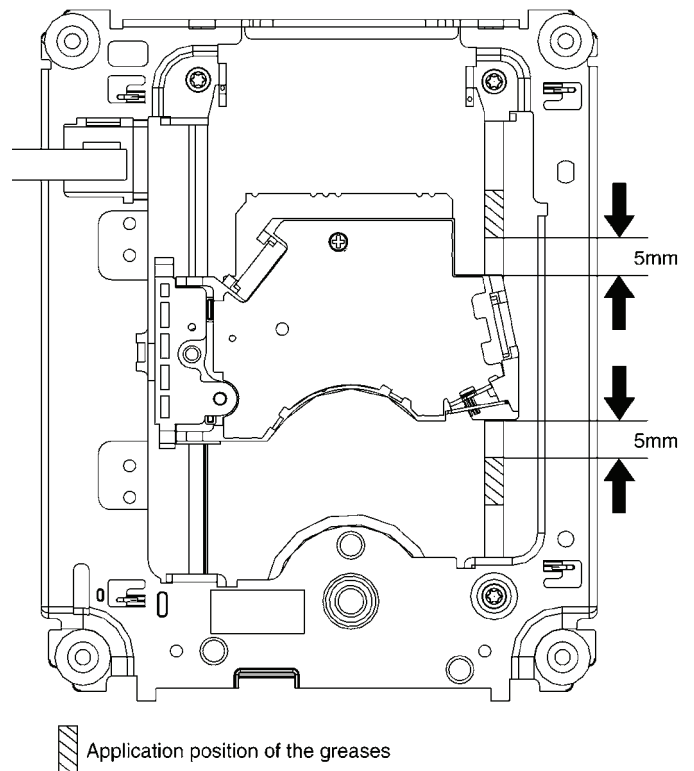
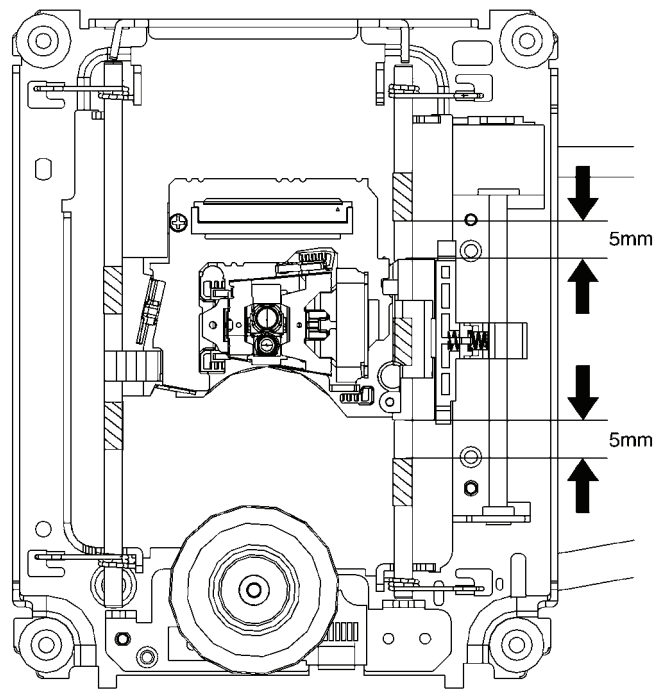


3. Insert FFC, and desolder the solder spot.
  - a. Use the iron head with an angle as shown in Fig, remove the solder in the direction as shown.
  - b. Set the temperature of iron below 350°C.
  - c. When using the iron head,do not apply a force more than 1N to the pad. Do not touch any other components around the welding spot.

d. Welding should be applied less than 3 times.

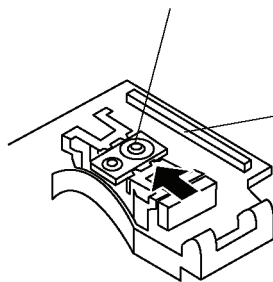


4. Apply the lubricants to the 7 points as shown in Figure.

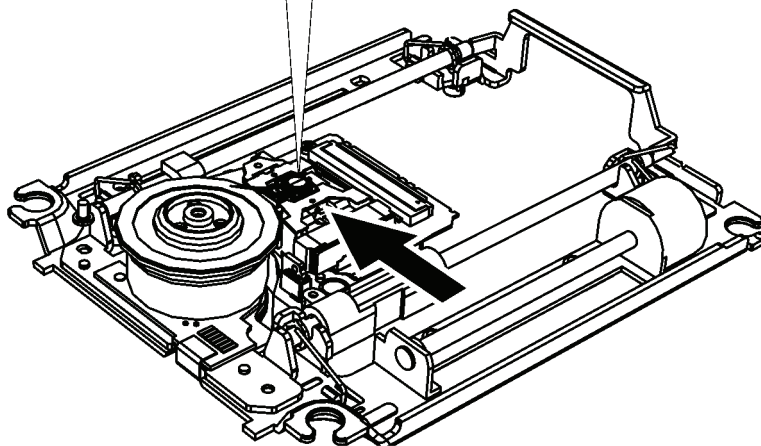


### 9.3.3. How to Clean the Lens of Optical Pick-UP

Caution : Be sure to wipe a lens in the direction of arrow.

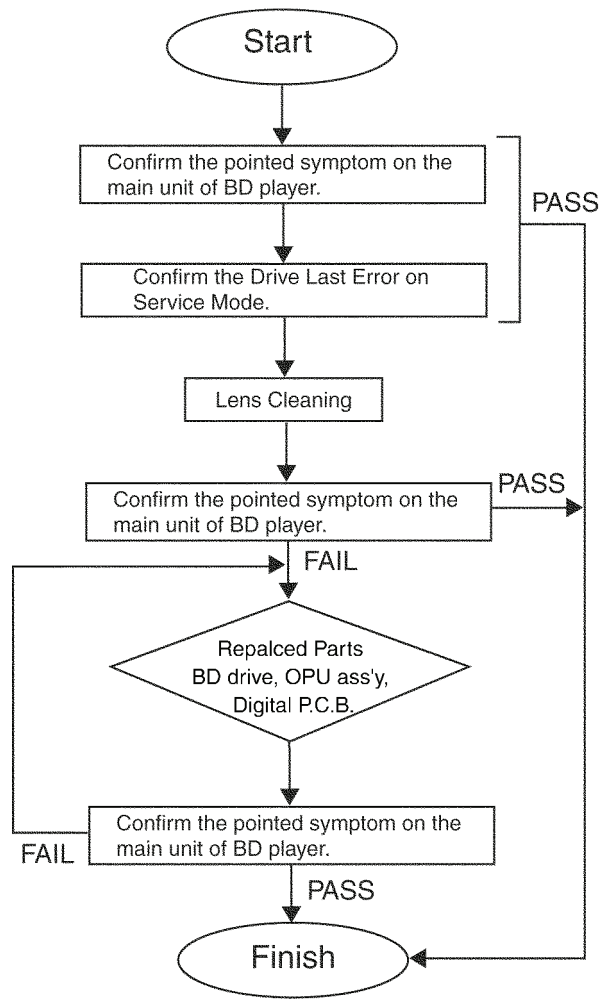


Gently wipe the object lens surface with a cotton swab slightly dampened with ethyl alcohol. Clean the lens until the cotton swab no longer picks up dirt. Finally, wipe the lens surface with a soft, dry cloth to remove any residual alcohol.



## 9.4. Repair Flowchart and Analysis Procedures

### 9.4.1. Repair Flowchart



**Note:**

When Digital P.C.B., Drive unit and OPU ass'y are replaced, adjustment value initialization is not required.

## **9.4.2. Distinction Analysis**

### **9.4.2.1. Analysis Procedures**

1. Confirmation of pointed symptom -1
  - Confirm the pointed symptom of BD player occurs again after cleaning the lens.
2. Replacement of Digital P.C.B. with the normal P.C.B.
  - Replace the failed Digital P.C.B. with the normal P.C.B.
3. Confirmation of pointed symptom -2
  - Checking symptoms of failed disc in the procedure 1.  
For this time,  
PASS denotes the Digital P.C.B. is defective.  
FAIL denotes the Optical Pick-up or mechanism are defective.
4. Replacement of Digital P.C.B. with the original one.
5. Pointed symptom -3
  - Recheck the pointed symptoms to see mechanism part is improved.  
For this time,  
In case of FAIL, go back to Replacement failure part 1 to confirm the pointed symptoms.  
If it is PASS, it is finished.

# 10 Measurements and Adjustments

## 10.1. Service Positions

### Note:

For description of the disassembling procedure, see the section 9.

### 10.1.1. Checking and Repairing of Power P.C.B.

#### 1.Top Case

Remove the 3 Screws (A).

Slide Top Case rearward and open the both ends at rear side of the Top Case a little and lift the Top Case in the direction of the arrows.

#### 2. Front Panel ass'y

Remove the Tray top.

Unlock 6 tabs turn and Remove Front Panel.

#### 3. Rear Panel

Remove 4 Screws (one of the HDMI) to remove the Rear Panel.

#### 4. Power P.C.B.

Remove the Power SW P.C.B..

Disconnect the connector (23Pin) between Power P.C.B. and Digital P.C.B..

Remove 3 Screws to remove Power P.C.B..

Put Power P.C.B. on the Insulation Board.

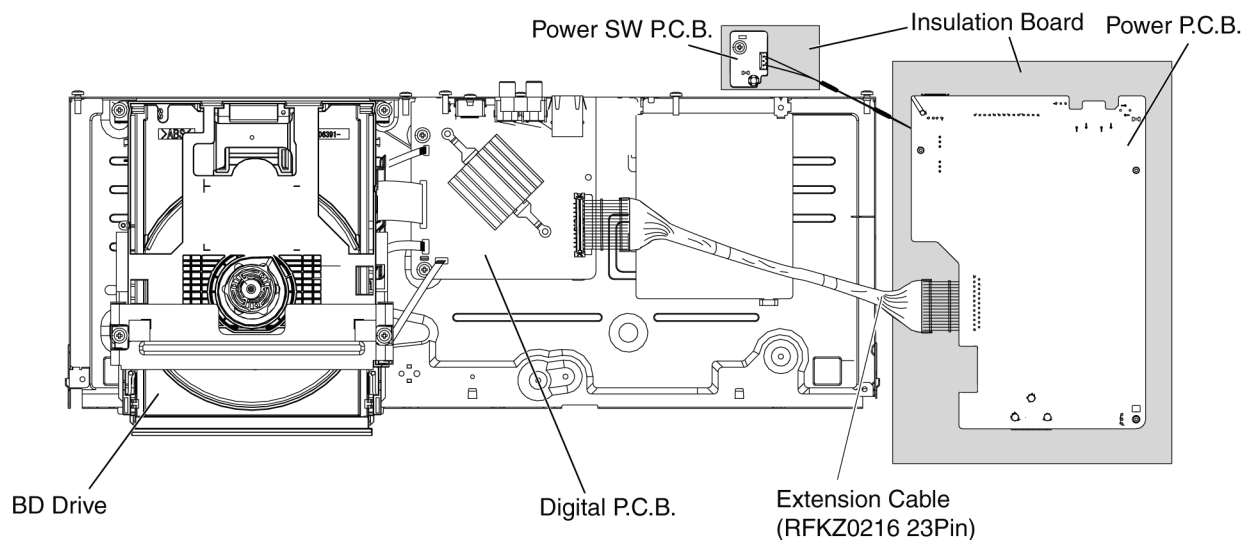
Connecting the Power SW P.C.B. to the Power P.C.B. with original cable.

Connect Extension Cables shown below.

Between Power P.C.B. and Digital P.C.B.:(RFKZ0216) 23 Pin

### Caution :

1.Red wire should be connected to pin 1.



### 10.1.2. Checking and Repairing of Digital P.C.B. Module

#### 1. Top Case

Remove the 3 Screws (A).

Slide Top Case rearward and open the both ends at rear side of the Top Case a little and lift the Top Case in the direction of the arrows.

#### 2. Front Panel ass'y

Remove the Tray top.

Unlock 6 tabs turn and Remove Front Panel.

#### 3. Rear Panel

Remove 4 Screws (one of the HDMI) to remove the Rear Panel.

#### 4. Digital P.C.B.

Disconnect the connector (23Pin) between Power P.C.B. and Digital P.C.B..

Remove 6 Screws to remove Digital P.C.B. and BD Drive.

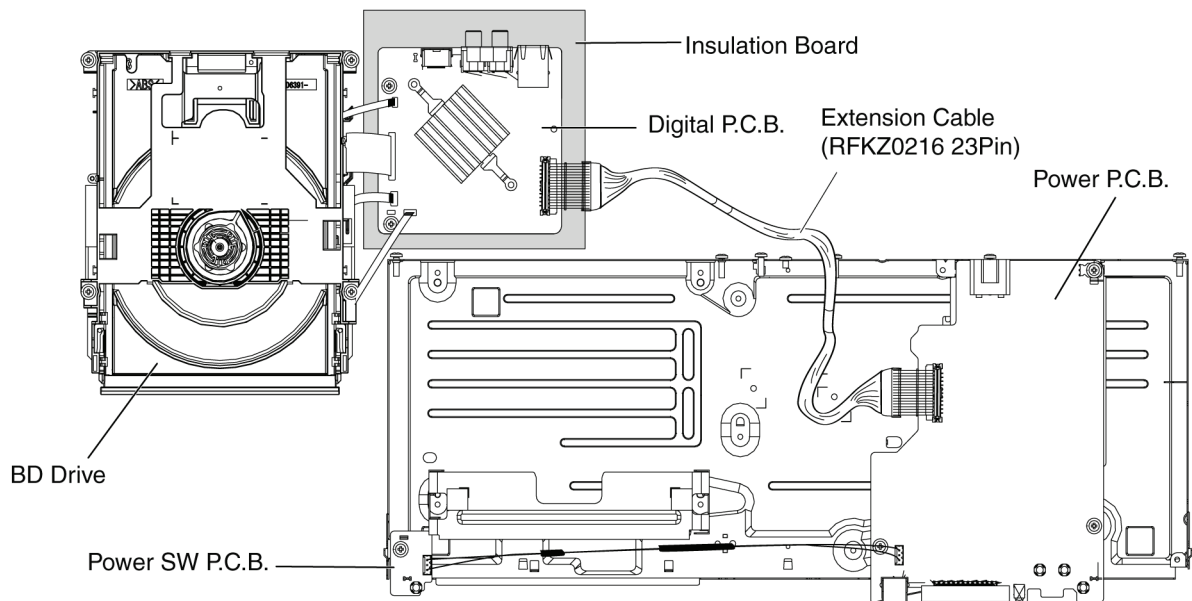
Put Digital P.C.B. on the Insulation Board.

Connect Extension Cables shown below.

Between Power P.C.B. and Digital P.C.B.:(RFKZ0216) 23 Pin

#### Caution :

1. Red wire should be connected to pin 1.



## 10.2. Caution for Replacing Parts

### 10.2.1. Items that should be done after replacing parts

√: Necessary      —: Unnecessary

Replacing Parts	Items that Should be done	Updating Firmware (Note 1)
Digital P.C.B.		√

### 10.2.2. Standard Inspection Specifications after Making Repairs

After making repairs, we recommend performing the following inspection, to check normal operation.

No.	Procedure	Item to Check
1	Turn on the power, and confirm items pointed out.	Items pointed out should reappear.
2	Insert RAM disc.	The Panasonic RAM disc should be recognized.
3	Perform playback for one minute using the RAM disc.	No abnormality should be seen in the picture, sound or operation. *Panasonic DVD-RAM disc should be used when recording and playback.
4	Perform playback for one minute using the BD-Video disc.	No abnormality should be seen in the picture, sound or operation.
5	If a problem is caused by a BD-Video disc, VCD, DVD-R, DVD-Video, Audio-CD, or MP3, playback the test disc.	No abnormality should be seen in the picture, sound or operation.
6	After checking and making repairs, upgrade the firmware to the latest version.	Make sure that [UPD OK] appears in the FL displays. *[UNSUPPORT] display means the unit is already updated to newest same version. Then version up is not necessary.
7	Transfer [9][9] in the service mode setting, and initialize the service settings (return various settings and error information to their default values. The laser time is not included in this initialization).	Make sure that [CLR] appears in the FL display. After checking it, turn the power off.

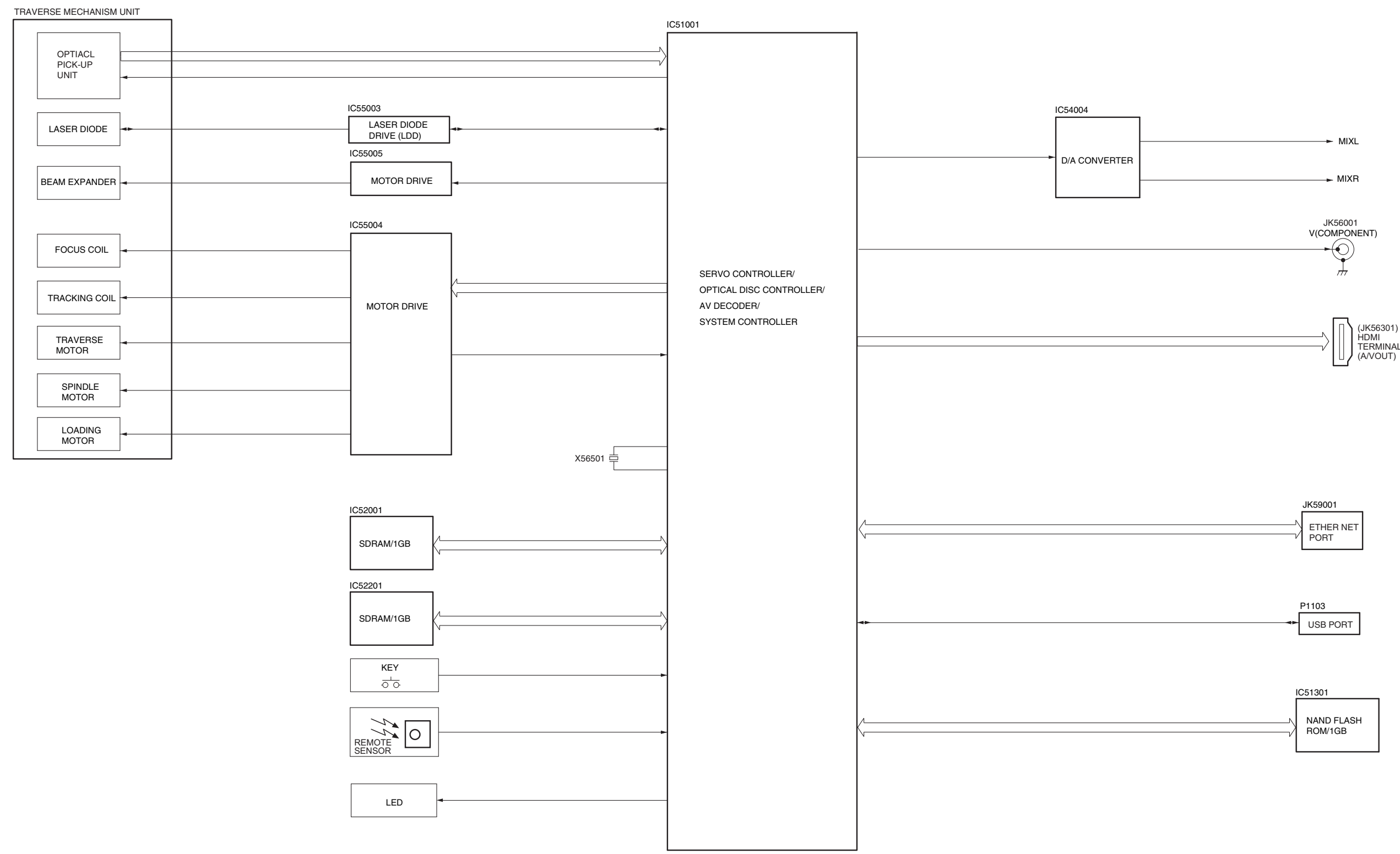
Use the following checklist to establish the judgement criteria for the picture and sound.

Item	Contents	Check	Item	Contents	Check
Picture	Block noise		Sound	Distorted sound	
	Crosscut noise			Noise (static, background noise, etc.)	
	Dot noise			The sound level is too low.	
	Picture disruption			The sound level is too high.	
	Not bright enough			The sound level changes.	
	Too bright				
	Flickering colour				
	Colour fading				



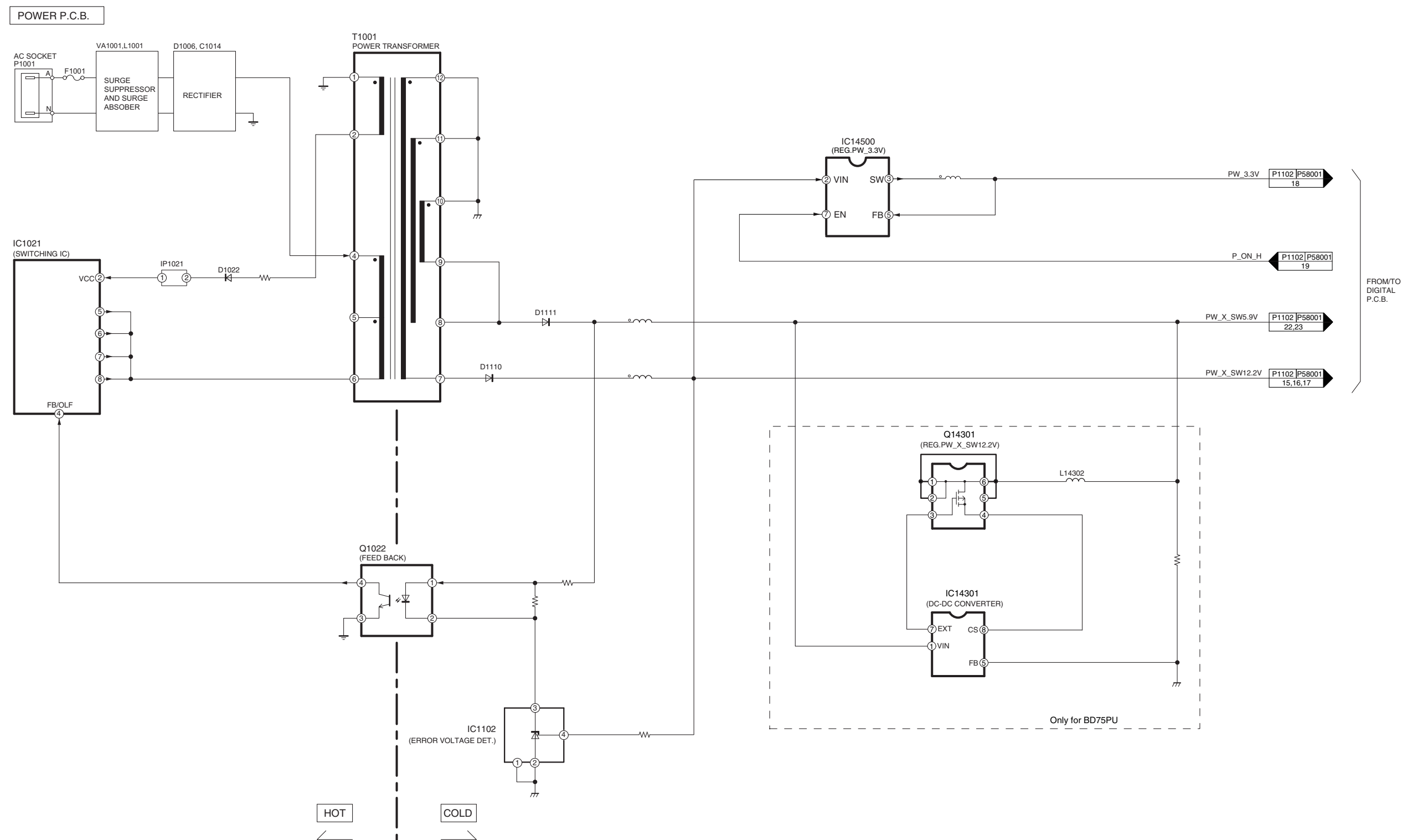
# 11 Block Diagram

## 11.1. Overall Block Diagram



DMP-BD75GA/GC/GN/GT/GW/PU  
OVERALL BLOCK DIAGRAM

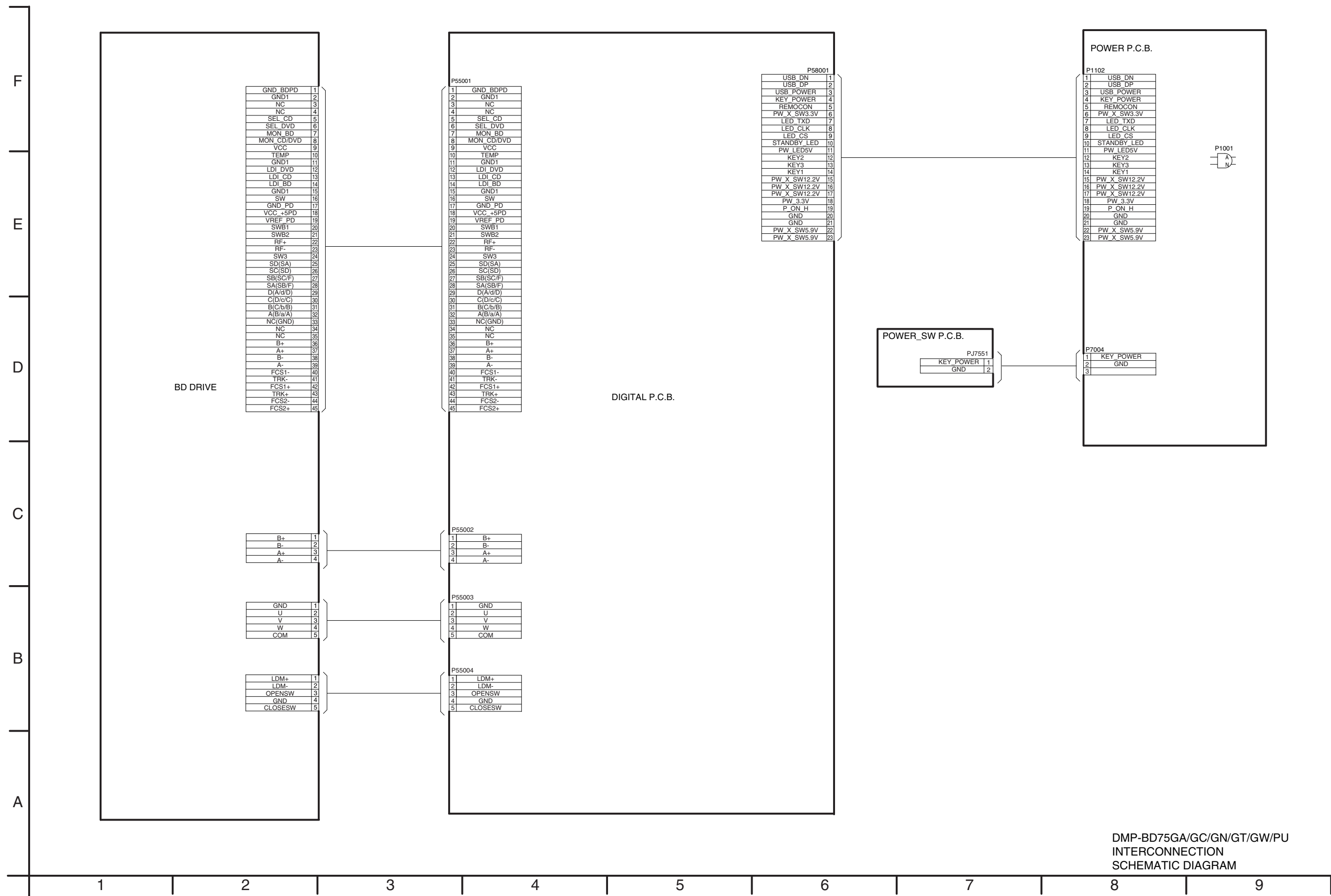
11.2. Power Supply Block Diagram



DMP-BD75GA/GC/GN/GT/GW/PU  
POWER BLOCK DIAGRAM

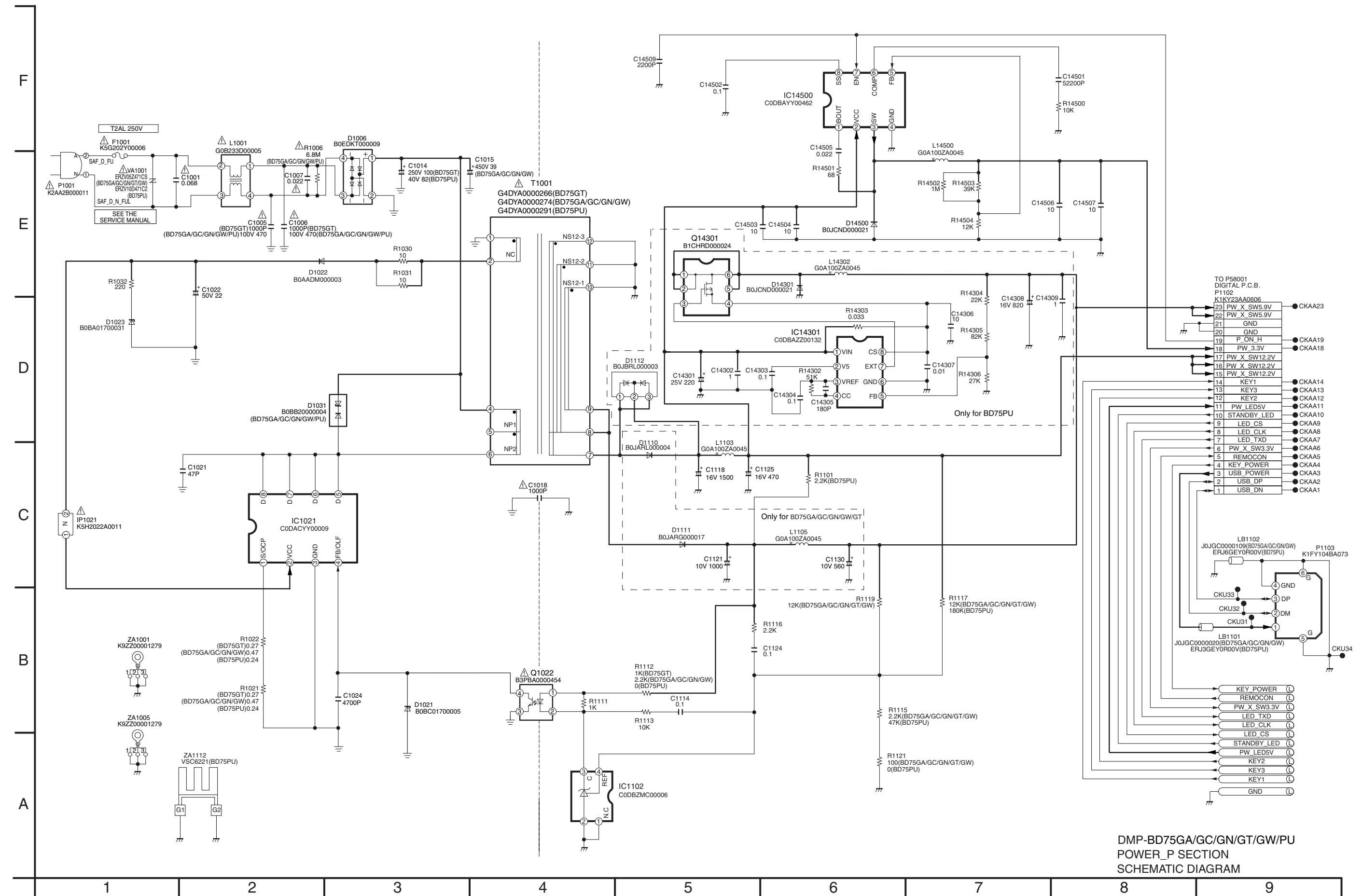
# 12 Schematic Diagram

## 12.1. Interconnection Schematic Diagram

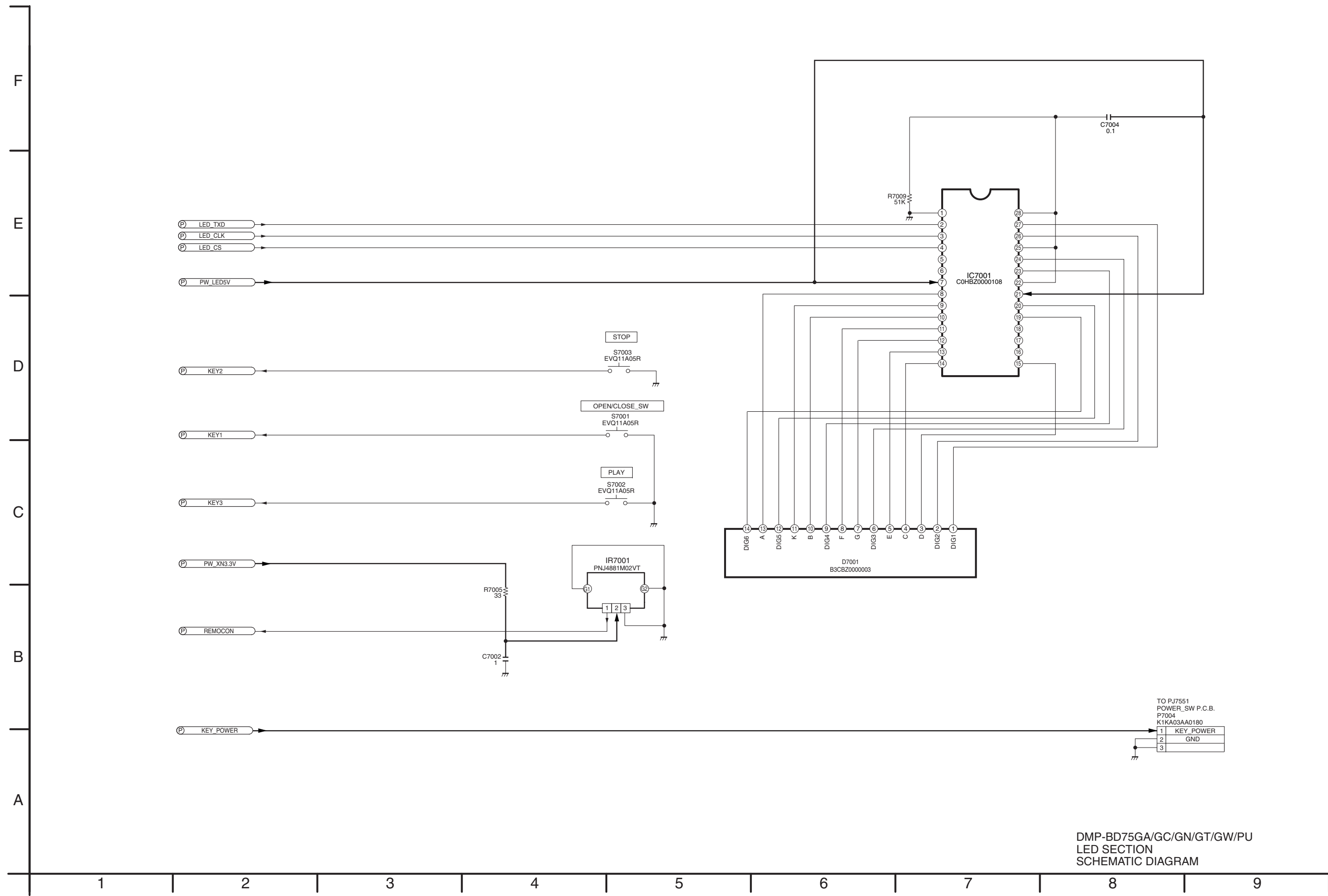


DMP-BD75GA/GC/GN/GT/GW/PU  
INTERCONNECTION  
SCHEMATIC DIAGRAM

## 12.2. Power Supply Schematic Diagram

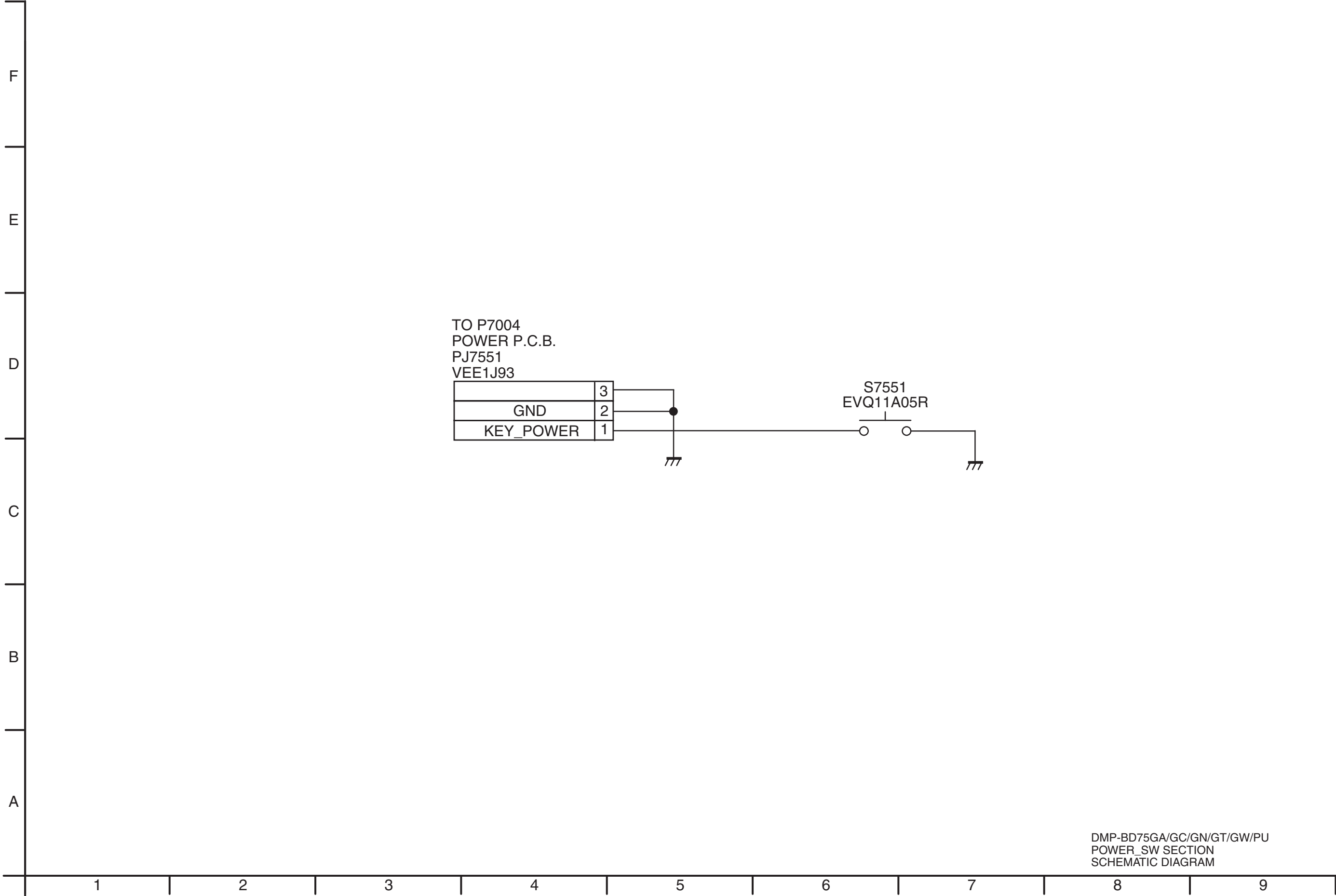


12.3. LED Section Schematic Diagram



DMP-BD75GA/GC/GN/GT/GW/PU  
LED SECTION  
SCHEMATIC DIAGRAM

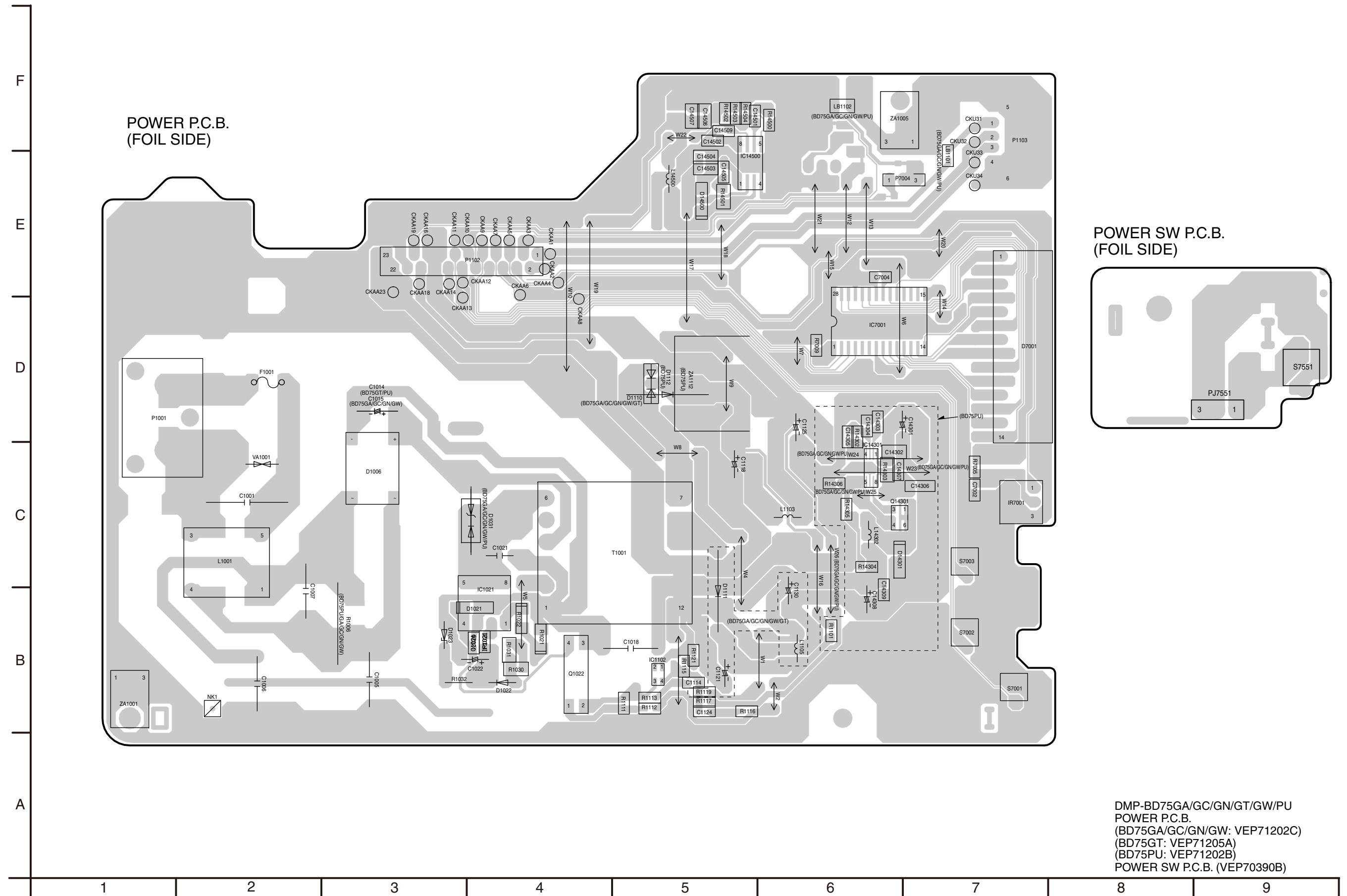
12.4. Power SW Schematic Diagram



DMP-BD75GA/GC/GN/GT/GW/PU  
POWER\_SW SECTION  
SCHEMATIC DIAGRAM

## 13 Printed Circuit Board

### 13.1. Power P.C.B. and Power SW P.C.B.



# 14 Appendix for Schematic Diagram

## 14.1. Voltage and Waveform Chart

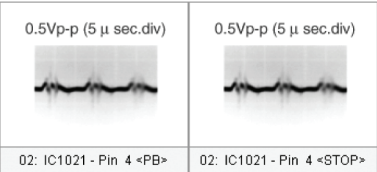
**NOTE:**  
Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

### 14.1.1. Power P.C.B.

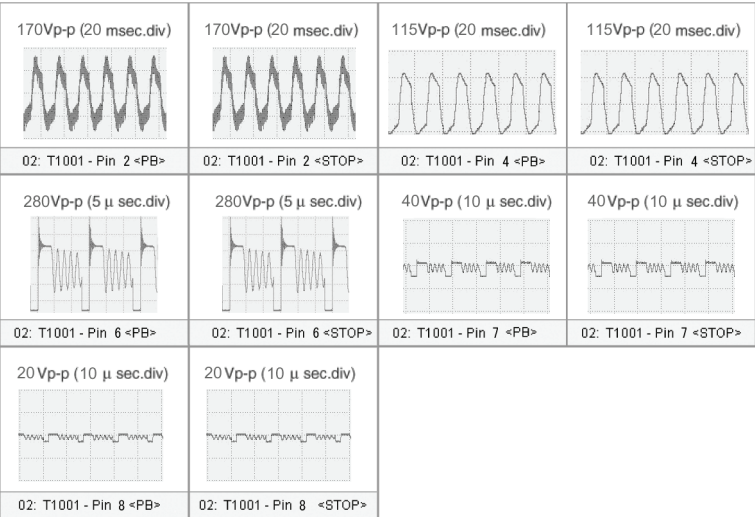
Ref No.	IC1021									IC1102													
MODE	1	2	3	4	5	6	7	8		1	2	3	4										
PLAY	0	0	0	0	2.8	2.8	2.5	2.5		0	0	3.6	2.5										
STOP	0	0	0	0	2.8	2.8	2.5	2.5		0	0	3.6	2.5										
Ref No.	IC7001																						
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
PLAY	2.3	0	4.8	0	0	0	0	0	1.6	1.0	0	1.0	1.0	0.9	1.0	0	0	0	1.9	1.9			
STOP	2.3	0	4.8	0	0	0	0	0	1.6	1.0	0	1.0	1.0	0.9	1.0	0	0	0	1.9	1.9			
Ref No.	IC7001									IC14500													
MODE	21	22	23	24	25	26	27	28		1	2	3	4	5	6	7	8						
PLAY	5.0	0	1.9	0	0	1.9	1.9	0		7.3	12.0	3.3	0	0.8	1.3	3.3	2.0						
STOP	5.0	0	1.9	0	0	1.9	1.9	0		7.3	12.0	3.3	0	0.8	1.3	3.3	2.0						
Ref No.	Q1022																						
MODE	1	2	3	4																			
PLAY	4.6	3.5	0.3	0																			
STOP	4.6	3.5	0.3	0																			
Ref No.	P1102																						
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
PLAY	0	0	5.0	3.3	3.3	3.3	0	5.0	5.0	3.3	3.3	3.3	3.3	0.9	12.0	12.0	12.0	3.3	3.3	0			
STOP	0	0	5.0	3.3	3.3	3.3	0	5.0	5.0	3.3	3.3	3.3	3.3	0.9	12.0	12.0	12.0	3.3	3.3	0			
Ref No.	P1102				P7004																		
MODE	21	22	23		1	2	3																
PLAY	0	5.9	5.9		3.3	0	0																
STOP	0	5.9	5.9		3.3	0	0																

### 14.1.2. Waveform Chart

<IC1021>



<T1001>





### 14.1.3. Abbreviations

INITIAL/LOGO	ABBREVIATIONS
A	A0~UP ADDRESS ACLK AUDIO CLOCK AD0~UP ADDRESS BUS ADATA AUDIO PES PACKET DATA ALE ADDRESS LATCH ENABLE AMUTE AUDIO MUTE AREQ AUDIO PES PACKET REQUEST ARF AUDIO RF ASI SERVO AMP INVERTED INPUT ASO SERVO AMP OUTPUT ASYNC AUDIO WORD DISTINCTION SYNC
B	BCK BIT CLOCK (PCM) BCKIN BIT CLOCK INPUT BDO BLACK DROP OUT BLKCK SUB CODE BLOCK CLOCK BOTTOM CAP. FOR BOTTOM HOLD BYP BYPATH BYTCK BYTE CLOCK
C	CAV CONSTANT ANGULAR VELOCITY CBDO CAP. BLACK DROP OUT CD COMPACT DISC CDSCK CD SERIAL DATA CLOCK CDSRDATA CD SERIAL DATA CDRF CD RF (EFM) SIGNAL CDV COMPACT DISC-VIDEO CHNDATA CHANNEL DATA CKSL SYSTEM CLOCK SELECT CLV CONSTANT LINEAR VELOCITY COFTR CAP. OFF TRACK CPA CPU ADDRESS CPCS CPU CHIP SELECT CPDT CPU DATA CPUADR CPU ADDRESS LATCH CPUADT CPU ADDRESS DATA BUS CPUIRQ CPU INTERRUPT REQUEST CPRD CPU READ ENABLE CPWR CPU WRITE ENABLE CS CHIP SELECT CSYNCIN COMPOSITE SYNC IN CSYNCOUT COMPOSITE SYNC OUT
D	DACCK D/A CONVERTER CLOCK DEEMP DEEMPHASIS BIT ON/OFF DEMPH DEEMPHASIS SWITCHING DIG0~UP FL DIGIT OUTPUT DIN DATA INPUT DMSRCK DM SERIAL DATA READ CLOCK DMUTE DIGITAL MUTE CONTROL DO DROP OUT DOUT0~UP DATA OUTPUT DRF DATA SLICE RF (BIAS) DRPOUT DROP OUT SIGNAL DREQ DATA REQUEST DRESP DATA RESPONSE DSC DIGITAL SERVO CONTROLLER DSLF DATA SLICE LOOP FILTER DVD DIGITAL VIDEO DISC

INITIAL/LOGO	ABBREVIATIONS
E	EC ERROR TORQUE CONTROL ECR ERROR TORQUE CONTROL REFERENCE ENCSSEL ENCODER SELECT ETMCLK EXTERNAL M CLOCK (81MHz/40.5MHz) ETSCLK EXTERNAL S CLOCK (54MHz)
F	FBAL FOCUS BALANCE FCLK FRAME CLOCK FE FOCUS ERROR FFI FOCUS ERROR AMP INVERTED INPUT FEO FOCUS ERROR AMP OUTPUT FG FREQUENCY GENERATOR FSC FREQUENCY SUB CARRIER FSCK FS (384 OVER SAMPLING) CLOCK
G	GND COMMON GROUNDING (EARTH)
H	HA0~UP HOST ADDRESS HD0~UP HOST DATA HINT HOST INTERRUPT HRXW HOST READ/WRITE

INITIAL/LOGO	ABBREVIATIONS
I	IECOUT IEC958FORMATDATAOUTPUT IPFRAG INTERPOLATIONFLAG IREF I(CURRENT)REFERENCE ISEL INTERFACEMODESELECT
L	LDON LASERDIODECONTROL LPC LASERPOWERCONTROL LRCK LCH/RCHDISTINCTIONCLOCK
M	MA0~UP MEMORYADDRESS MCK MEMORYCLOCK MCKI MEMORYCLOCKINPUT MCLK MEMORYSERIALCOMMANDCLOCK MDATA MEMORYSERIALCOMMANDDATA MDQ0~UP MEMORYDATAINPUT/OUTPUT MDQM MEMORYDATA/OMASK MLD MEMORYSERIALCOMMANDLOAD MPEG MOVINGPICTUREEXPERTSGROUP
O	ODC OPTICALDISCCONTROLLER OFTR OFFTRACKING OSCI OSCILLATORINPUT OSCO OSCILLATOROUTPUT OSD ONSCREENDISPLAY
P	P1~UP PORT PCD CDTRACKINGPHASEDIFFERENCE PCK PLLCLOCK PDVD DVDTRACKINGPHASEDIFFERENCE PEAK CAP.FORPEAKHOLD PLLCLK CHANNELPLLCLK PLLCK PLLLOCK PWMCTL PWMOUTPUTCONTROL PWMDA PULSEWAVEMOTORDRIVEA PWMOA,B PULSEWAVEMOTOROUTA,B

INITIAL/LOGO	ABBREVIATIONS
R	RE READENABLE RFENV RFENVELOPE RFO RFPHASEDIFFERENCEOUTPUT RS (CD-ROM)REGISTERSELECT RSEL RFPOLARITYSELECT RST RESET RSV RESERVE
S	SBI0,1 SERIALDATAINPUT SBO0 SERIALDATAOUTPUT SBT0,1 SERIALCLOCK SCK SERIALDATAACLOCK SCKR AUDIOSERIALCLOCKRECEIVER SCL SERIALCLOCK SCLK SERIALCLOCK SDA SERIALDATA SEG0~UP FLSEGMENTOUTPUT SELCLK SELECTCLOCK SEN SERIALPORTENABLE SIN1,2 SERIALDATAIN SOUT1,2 SERIALDATAOUT SPDI SERIALPORTDATAINPUT SPDO SERIALPORTDATAOUTPUT SPEN SERIALPORTR/WENABLE SPRCLK SERIALPORTREADCLOCK SPWCLK SERIALPORTWRITECLOCK SQCK SUBCODEQCLOCK SQCX SUBCODEQDATAREADCLOCK SRDATA SERIALDATA SRMADR SRAMADDRESSBUS SRMDT0~7 SRAMDATABUS0~7 SS START/STOP STAT STATUS STCLK STREAMDATAACLOCK STD0~UP STREAMDATA STENABLE STREAMDATAINPUTENABLE STSEL STREAMDATAPOLARITYSELECT STVALID STREAMDATAVALIDITY SUBC SUBCODESERIAL SBCK SUBCODECLOCK SUBQ SUBCODEQDATA SYSCLK SYSTEMCLOCK

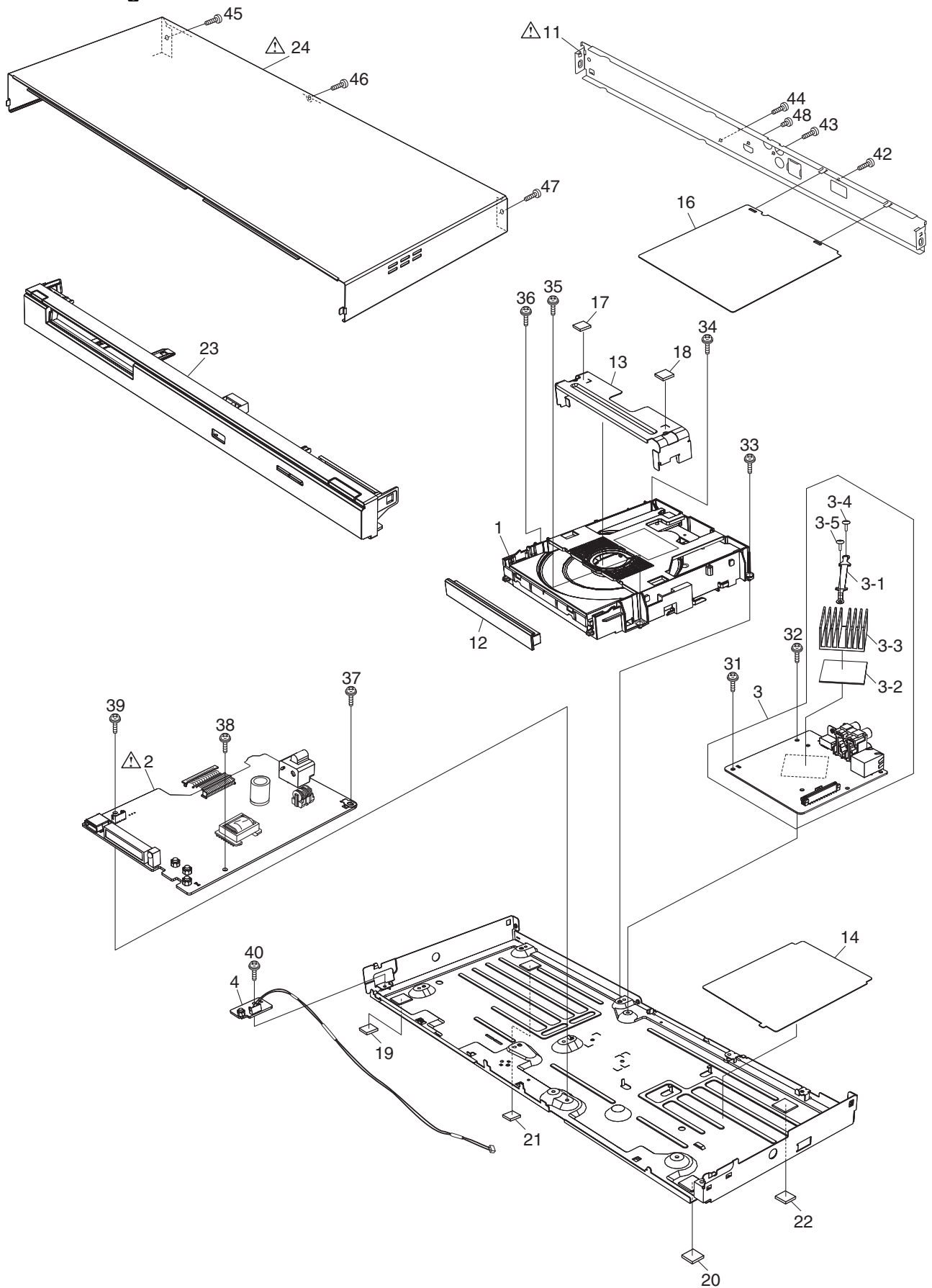
INITIAL/LOGO		ABBREVIATIONS
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACK CROSS SIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON

INITIAL/LOGO		ABBREVIATIONS
V	VBLANK	V BLANKING
	VCC	COLLECTOR POWER SUPPLY VOLTAGE
	VCDCONT	VIDEO CD CONTROL (TRACKING BALANCE)
	VDD	DRAIN POWER SUPPLY VOLTAGE
	VFB	VIDEO FEED BACK
	VREF	VOLTAGE REFERENCE
	VSS	SOURCE POWER SUPPLY VOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER
X	X	X' TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPT REQUEST
	XI	X' TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X' TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIP SELECT
	XVDS	X V-DEC CONTROL BUS STROBE
	XVSYNCO	X VERTICAL SYNC OUTPUT

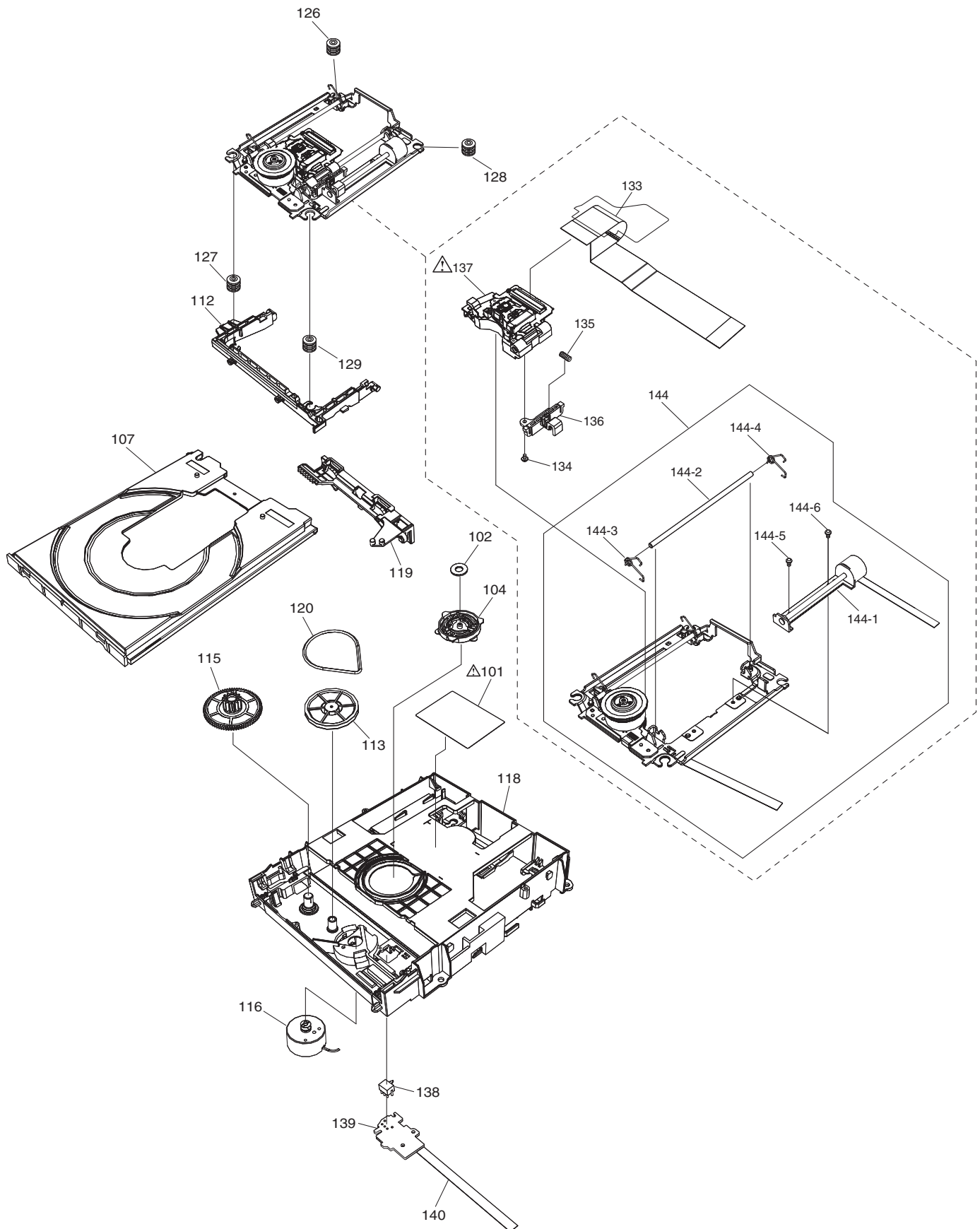
# 15 Exploded View and Replacement Parts List

## 15.1. Exploded Views

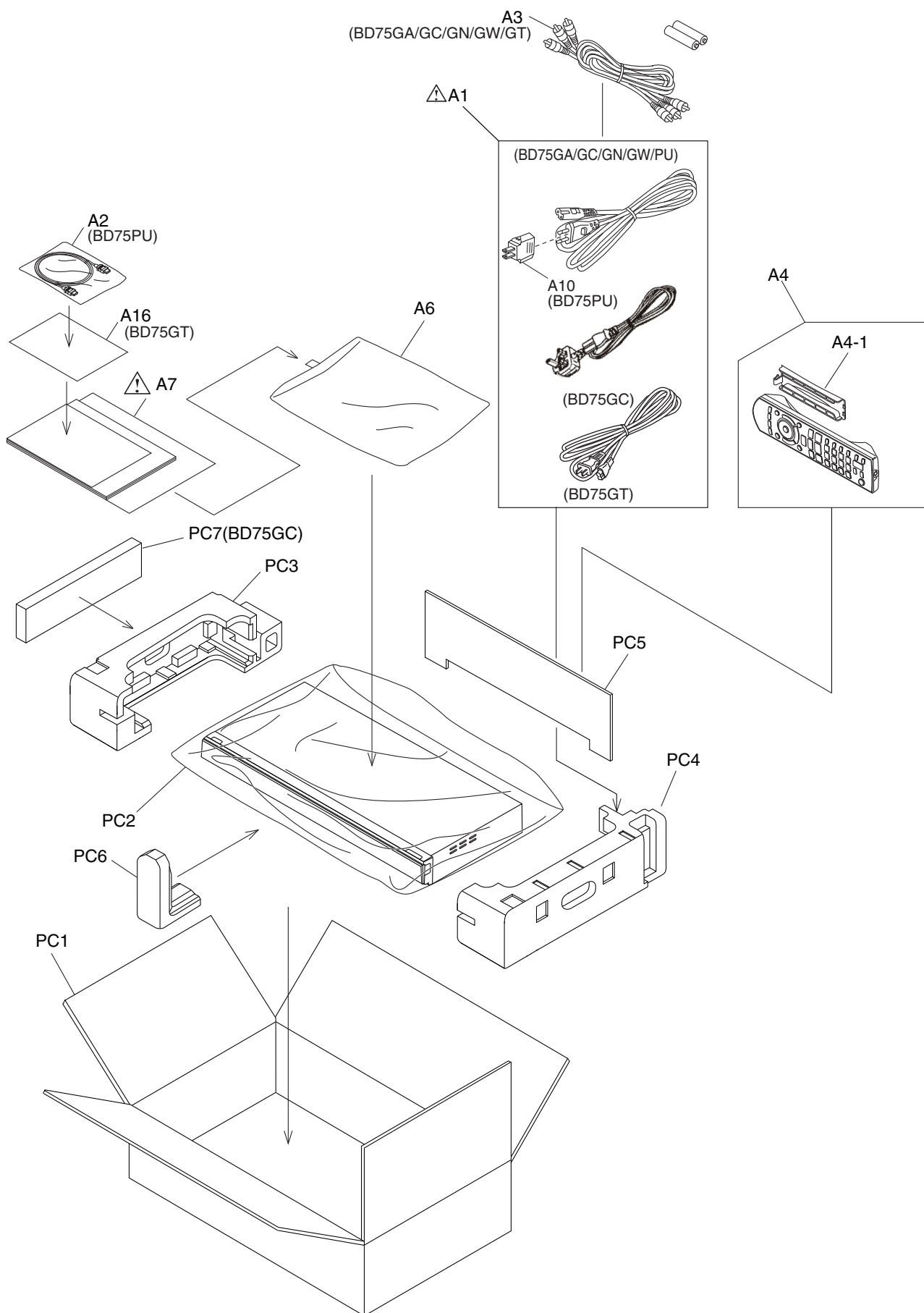
### 15.1.1. Casing Parts & Mechanism Section



## 15.1.2. Mechanism Section




### 15.1.3. Packing & Accessories Section



## 15.1.4. Mechanical Replacement Parts List

### Notes:

\*Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

\*Warning: This product uses a laser diode. Refer to caution statements.

\*Capacity values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads (F).

\*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).





\*The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.









\*(IA) - (IB)" marks in Remarks indicate languages of instruction manuals.

[ (IA): Spanish ; (IB): Canadian French; (IC):Traditional Chinese; (ID):Traditional Chinese; (IE): Arabic]

\*All parts are supplied by CHPAVC.

**E.S.D.. standards for Electrostatically Sensitive Devices, refer to “PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES” section.**

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
			CASING		
	1	VXY2122T	BD DRIVE	1	
	2	VEP71202B	POWER P.C.B.	1	(RTL) E.S.D. BD75PU
	2	VEP71202C	POWER P.C.B.	1	(RTL) E.S.D. BD75GA/ GC/GN/ GW
	2	VEP71205A	POWER P.C.B.	1	(RTL) E.S.D. BD75GT
	3	RFKB76241CT	DIGITAL P.C.B.	1	E.S.D. BD75PU
	3	RFKB76241DAT	DIGITAL P.C.B.	1	E.S.D. BD75GA
	3	RFKB76241DCT	DIGITAL P.C.B.	1	E.S.D. BD75GC
	3	RFKB76241DWT	DIGITAL P.C.B.	1	E.S.D. BD75GW
	3	RFKB76241DNT	DIGITAL P.C.B.	1	E.S.D. BD75GN
	3	RFKB76241DTT	DIGITAL P.C.B.	1	E.S.D. BD75GT
	3-1	RMCO797	HEAT SINK ANGLE	1	
	3-2	RMQ1513	HEAT RADIATION PLATE	1	
	3-3	RMV0413	RADIATOR	1	
	3-4	VJF0036-A	SCREW	1	

	3-5	VJF0036-A	SCREW	1	
	4	VEP70390B	POWER SW P.C.B.	1	(RTL) E.S.D.
	11	RGR0414A-G1	REAR PANEL	1	BD75PU
	11	RGR0414A-D1	REAR PANEL	1	BD75GA
	11	RGR0414A-E1	REAR PANEL	1	BD75GC
	11	RGR0414A-J1	REAR PANEL	1	BD75GW
	11	RGR0414A-C1	REAR PANEL	1	BD75GN
	11	RGR0414A-H1	REAR PANEL	1	BD75GT
	12	RGK2250-K	TRAY PANEL	1	
	13	RMA2294	DRIVE SPACER	1	
	14	RMZ1199	BOTTOM CASE INSULATION SHEET	1	
	16	RMZ1155-1	TOP CASE INSULATION SHEET	1	
	17	RKA0251-K	FOOT RUBBER	1	
	18	RKA0251-K	FOOT RUBBER	1	
	19	RKA0243-KJ	FOOT RUBBER	1	
	20	RKA0243-KJ	FOOT RUBBER	1	
	21	RKA0243-KJ	FOOT RUBBER	1	
	22	RKA0243-KJ	FOOT RUBBER	1	
	23	RYP1627C-Q	FRONT PANEL ASS'Y	1	BD75PU
	23	RYP1627A-Q	FRONT PANEL ASS'Y	1	BD75GT
	23	RYP1627G-Q	FRONT PANEL ASS'Y	1	BD75GA/ GC/GN/ GW
	24	RKM0643-K	TOP CASE	1	
	31	RHD30168-J	SCREW	1	
	32	RHD30168-J	SCREW	1	
	33	RHD30168-J	SCREW	1	
	34	RHD30168-J	SCREW	1	
	35	RHD30168-J	SCREW	1	
	36	RHD30168-J	SCREW	1	
	37	RHD30168-J	SCREW	1	
	38	RHD30168-J	SCREW	1	
	39	RHD30168-J	SCREW	1	
	40	RHD30168-J	SCREW	1	
	42	RHD30119-L	SCREW	1	
	43	RHD30119-L	SCREW	1	
	44	RHD30119-L	SCREW	1	
	45	RHD30119-L	SCREW	1	
	46	RHD30119-L	SCREW	1	
	47	RHD30119-L	SCREW	1	
	48	XSN3+4FJ	SCREW	1	
	101	VQL1V70-J	LASER CAUTION LABEL	1	
	102	VMA0V86	YOKE	1	
	104	VMD6392	CLAMPER	1	
	107	VMD6391	TRAY	1	
	112	VMD6494	MID BASE	1	
	113	VDG1756-1	PULLEY GEAR	1	
	115	VDG1757	MID GEAR	1	
	116	VEM0885	LOADING MOTOR U	1	
	118	VMD6389-1	MECHA CHASSIS	1	
	119	VMD6390	SLIDE CAM	1	
	120	VMG1720	BELT	1	
	126	VMG1966	DAMPER	1	
	127	VMG1966	DAMPER	1	
	128	VMG1966	DAMPER	1	
	129	VMG1966	DAMPER	1	
	133	VWJ2222-1	OPU FFC	1	
	134	VHD2268	NUT PIECE SCREW	1	
	135	VMB4004-J	NUT PIECE SPRING	1	
	136	VMD6395	NUT PIECE	1	
	137	L1BBZ0000006	OPTICAL PICK-UP	1	
	138	K0L1CB000004	LEVER SWITCH	1	
	139	VJB70396	SW P.C.B.	1	E.S.D.
	140	VWJ2228-J	SW FFC	1	
	144	VXA8900-SER	TRAVERSE UNIT (WITH-OUT OPU)	1	
	144-1	L6KAYYYH0006	STEPPING MOTOR	1	
	144-2	VMS8126	SHAFT	1	
	144-3	VMB4426	SHAFT SPRING	1	
	144-4	VMB4426	SHAFT SPRING	1	
	144-5	XTN2+4FFJ	STEPPING MOTOR SCREW	1	

	144-6	XTN2+4FFJ	STEPPING MOTOR SCREW	1	
	■		ACCESSORY		
△	A1	K2CQ2CA00007	AC CORD	1	BD75PU/ GA/GC/ GW
△	A1	K2CJ2DA00014	AC CORD	1	BD75GN
△	A1	K2CA2CA00027	AC CORD	1	BD75GT
△	A1	K2CP2CA00001	AC CORD	1	BD75GA
△	A1	K2CZ3YY00005	AC CORD	1	BD75GC
	A2	K1HA19DA0007	HDMI CABLE	1	BD75PU
	A3	K2KYYYY00048	AV CORD	1	BD75GA/ GC/GN/ GW/GT
	A4	N2QAYB000609	REMOTE CONTROL UNIT	1	BD75PU
	A4	N2QAYB000580	REMOTE CONTROL UNIT	1	BD75GA/ GC/GW/ GN/GT
	A4-1	110300031300	BATTERY COVER	1	
	A6	RPF0119-1	POLYETHYLENE BAG	1	
△	A7	VQT3B07	OPERATING INSTRUCTIONS	1	(IA) BD75PU
△	A7	VQT3B11	OPERATING INSTRUCTIONS	1	(IB) BD75GA/ GC/GN/ GW
△	A7	VQT3B14	OPERATING INSTRUCTIONS	1	(IC) BD75GT
△	A7	VQT3B12	OPERATING INSTRUCTIONS	1	(ID) BD75GA
△	A7	VQT3B13	OPERATING INSTRUCTIONS	1	(IE) BD75GC
△	A10	K2DAYYY00002	POWER PLUG ADAPTOR	1	BD75PU
	A16	RQLS0405	CHINESE LABEL SHEET	1	BD75GT
	■		PACKING		
	PC1	RPG9434	PACKING CASE	1	BD75GA
	PC1	RPG9435	PACKING CASE	1	BD75GC
	PC1	RPG9433	PACKING CASE	1	BD75GN
	PC1	RPG9438	PACKING CASE	1	BD75GW
	PC1	RPG9437	PACKING CASE	1	BD75GT
	PC1	RPG9432-1	PACKING CASE	1	BD75PU
	PC2	RPF0536	POLYETHYLENE BAG	1	
	PC3	RPN2248A-1	CUSHION (A)	1	
	PC4	RPN2248B-1	CUSHION (B)	1	
	PC5	RPQ2772	PAD	1	
	PC6	RPN2313	FRONT CUSHION	1	BD75GA/ GC/GN/ GW
	PC7	RPQ2799	PAD	1	BD75GC



## 15.2. Electrical Replacement Parts List

### Notes:

\*Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

\*Warning: This product uses a laser diode. Refer to caution statements.

\*Capacity values are in microfarads ( $\mu$ F) unless specified otherwise, P=Pico-farads (pF), F=Farads (F).

\*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).

\*The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

\*All parts are supplied by CHPAVC.

**E.S.D.. standards for Electrostatically Sensitive Devices, refer to "PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section.**

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	■	VEP71202B	POWER P.C.B.		(RTL) E.S.D. BD75PU
	■	VEP71202C	POWER P.C.B.		(RTL) E.S.D. BD75GA/ GC/GN/ GW
	■	VEP71205A	POWER P.C.B.		(RTL) E.S.D. BD75GT
$\Delta$	C1001	F0CAF683A021	250V 0.068U	1	
$\Delta$	C1005	F1BAF1020020	1000P	1	BD75GT
$\Delta$	C1005	F1B2G4710001	100V 470U	1	BD75PU/ GA/GC/ GN/GW
$\Delta$	C1006	F1BAF1020020	1000P	1	BD75GT
$\Delta$	C1006	F1B2G4710001	100V 470U	1	BD75PU/ GA/GC/ GN/GW
$\Delta$	C1007	F0CAF223A021	250V 0.022U	1	
	C1014	F2B2E1010003	250V 100U	1	BD75GT
	C1014	F2A2G8200002	40V 82U	1	BD75PU
	C1015	F2B2W3900003	450V 39U	1	BD75GA/ GC/GN/ GW
$\Delta$	C1018	F1BAF1020020	1000P	1	
	C1021	F1A3D470A010	2000V 47P	1	
	C1022	F2A1H2200055	50V 22U	1	
	C1024	F1H1H472A013	50V 4700P	1	
	C1114	F1H1C104A071	16V 0.1U	1	
	C1118	F2A1C1520021	16V 1500U	1	
	C1121	F2A1A1020072	10V 1000U	1	BD75GA/ GC/GN/ GW/GT
	C1124	F1H1C104A071	16V 0.1U	1	
	C1125	F2A1C4710079	16V 470U	1	
	C1130	F2A1A5610008	10V 560U	1	BD75GA/ GC/GN/ GW/GT
	C14301	F2A1E2210067	25V 220U	1	BD75PU

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	C14302	F1J1C105A091	16V 1U	1	BD75PU
	C14303	F1H1C104A071	16V 0.1U	1	BD75PU
	C14304	F1H1C104A071	16V 0.1U	1	BD75PU
	C14305	F1H1H181A004	50V 18P	1	BD75PU
	C14306	F1K1C106A062	16V 10U	1	BD75PU
	C14307	F1H1H103A748	50V 0.01U	1	BD75PU
	C14308	F2A1C8210008	16V 820U	1	BD75PU
	C14309	F1H1A105A028	10V 1U	1	BD75PU
	C14501	F1H1H222A013	50V 2200P	1	
	C14502	F1H1C104A071	16V 0.1U	1	
	C14503	F1J1C1060001	16V 10U	1	
	C14504	F1J1C1060001	16V 10U	1	
	C14505	F1H1E223A002	25V 0.022U	1	
	C14506	F1J0J106A014	6.3V 10U	1	
	C14507	F1J0J106A014	6.3V 10U	1	
	C14509	F1H1H222A013	50V 2200P	1	
	C7002	F1H1A105A028	10V 1U	1	
	C7004	F1H1C104A071	16V 0.1U	1	
	D1006	B0EDKT000009	DIODE	1	E.S.D.
	D1021	B0BC01700005	DIODE	1	E.S.D.
	D1022	B0AADM000003	DIODE	1	E.S.D.
	D1023	B0BA01700031	DIODE	1	E.S.D.
	D1031	B0BB20000004	DIODE	1	E.S.D. BD75PU/ GA/GC/ GN/GW
	D1110	B0JARL000004	DIODE	1	E.S.D. BD75GA/ GC/GN/ GW/GT
	D1111	B0JARG000017	DIODE	1	E.S.D. BD75GA/ GC/GN/ GW/GT
	D1112	B0JBRL000003	DIODE	1	E.S.D. BD75PU
	D14301	B0JCND000021	DIODE	1	E.S.D. BD75PU
	D14500	B0JCND000021	DIODE	1	E.S.D.
	D7001	B3CBZ0000003	DIODE	1	E.S.D.
$\Delta$	F1001	K5G202Y00006	FUSE	1	
	IC1021	C0DACYY00009	IC	1	E.S.D.
	IC1102	C0DBZMC00006	IC	1	E.S.D.
	IC14301	C0DBAZZ00132	IC	1	E.S.D. BD75PU
	IC14500	C0DBAYY00462	IC	1	E.S.D.
	IC7001	C0HBZ0000108	IC	1	E.S.D.
$\Delta$	IP1021	K5H2022A0011	IC PROTECTOR	1	
	IR7001	PNJ4881M02VT	REMOTE SENSOR	1	
$\Delta$	L1001	G0B233D00005	COIL 23000UH	1	
	L1103	G0A100ZA0045	COIL 10UH	1	
	L1105	G0A100ZA0045	COIL 10UH	1	BD75GA/ GC/GN/ GW/GT
	L14302	G0A100ZA0045	COIL 10UH	1	BD75PU
	L14500	G0A100ZA0045	COIL 10UH	1	
	LB1101	J0JGC0000020	COIL	1	BD75GA/ GC/GN/ GW
	LB1101	ERJ3GEY0R00V	COIL	1	BD75PU
	LB1102	J0JYC0000109	COIL	1	BD75GA/ GC/GN/ GW
	LB1102	ERJ6GEY0R00V	COIL	1	BD75PU
$\Delta$	P1001	K2AA2B000011	AC JACK	1	
	P1102	K1KY23AA0606	CONNECTOR (23P)	1	
	P1103	K1FY104BA073	JACK USB	1	
	P7004	K1KA03AA0180	CONNECTOR (3P)	1	



Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
△	Q1022	B3PBA0000454	TRANSISTOR	1	E.S.D.
	Q14301	B1CHRD000024	TRANSISTOR	1	E.S.D. BD75PU
△	R1006	D0BF685JA030	1/2 6.8M	1	BD75PU/ GA/GC/ GN/GW
	R1021	D0GZR27JA027	1/2W 0.27	1	BD75GT
	R1021	D0GZR47JA027	1/2W 0.47	1	BD75GA/ GC/GN/ GW
	R1021	D0GZR24JA027	1/2W 0.24	1	BD75PU
	R1022	D0GZR27JA027	1/2W 0.27	1	BD75GT
	R1022	D0GZR47JA027	1/2W 0.47	1	BD75GA/ GC/GN/ GW
	R1022	D0GZR24JA027	1/2W 0.24	1	BD75PU
	R1030	ERJ6GEYJ100V	1/10W 10	1	
	R1031	ERJ6GEYJ100V	1/10W 10	1	
	R1032	ERDS2TJ221T	1/4W 220	1	
	R1101	ERJ3GEYJ222V	1/10W 2.2K	1	BD75PU
	R1111	ERJ3GEYJ102V	1/10W 1K	1	
	R1112	ERJ3GEYJ102V	1/10W 1K	1	BD75GT
	R1112	ERJ3GEYJ222V	1/10W 2.2K	1	BD75GA/ GC/GN/ GW
	R1112	ERJ3GEY0R00V	1/10W 0	1	BD75PU
	R1113	ERJ3GEYJ103V	1/10W 10K	1	
	R1115	ERJ3RBD222V	1/16W 2.2K	1	BD75GA/ GC/GN/ GW/GT
	R1115	ERJ3RBD473V	1/16W 47K	1	BD75PU
	R1116	ERJ3GEYJ222V	1/10W 2.2K	1	
	R1117	ERJ3RBD123V	1/16W 12K	1	BD75GA/ GC/GN/ GW/GT
	R1117	ERJ3RED184V	1/16W 180K	1	BD75PU
	R1119	ERJ3RBD123V	1/16W 12K	1	BD75GA/ GC/GN/ GW/GT
	R1121	ERJ3RBD101V	1/16W 100	1	BD75GA/ GC/GN/ GW/GT
	R1121	ERJ3GEY0R00V	1/10W 0	1	BD75PU
	R14302	ERJ3GEYJ513V	1/10W 51K	1	BD75PU
	R14303	D1BDR033A135	1/8W 0.033	1	BD75PU
	R14304	ERJ3RBD223V	1/16W 22K	1	BD75PU
	R14305	ERJ3RBD823V	1/16W 82K	1	BD75PU
	R14306	ERJ3RBD273V	1/16W 27K	1	BD75PU
	R14500	ERJ3GEYJ103V	1/10W 10K	1	
	R14501	ERJ6GEYJ680V	1/10W 68	1	
	R14502	ERJ3RED105V	1/16W 1M	1	
	R14503	ERJ3RBD393V	1/16W 39K	1	
	R14504	ERJ3RBD123V	1/16W 12K	1	
	R7005	ERJ3GEYJ330V	1/10W 33	1	
	R7009	ERJ3GEYJ513V	1/10W 51K	1	
	S7001	EVQ11A05R	SWITCH (OPEN/CLOSE)	1	
	S7002	EVQ11A05R	SWITCH (PLAY)	1	
	S7003	EVQ11A05R	SWITCH (STOP)	1	
△	T1001	G4DYA0000266	TRANSFORMER	1	BD75GT
△	T1001	G4DYA0000274	TRANSFORMER	1	BD75GA/ GC/GN/ GW
△	T1001	G4DYA0000291	TRANSFORMER	1	BD75PU
△	VA1001	ERZV05Z471CS	VARISTOR	1	BD75GA/ GC/GN/ GW/GT
△	VA1001	ERZV10D471C2	VARISTOR	1	BD75PU
	ZA1001	K9ZZ00001279	EARTH PLATE	1	
	ZA1005	K9ZZ00001279	EARTH PLATE	1	
	ZA1112	VSC6325	EARTH PLATE	1	BD75PU
	ZA1113	XYN3+J8FJ	EARTH PLATE	1	BD75PU

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	■	VEP70390B	POWER SW P.C.B.		(RTL) E.S.D.
	S7551	EVQ11A05R	SWITCH (POWER)	1	
	PJ7551	VEELJ93	WIRE	1	

## **16 Schematic Diagram for printing with A4 size**